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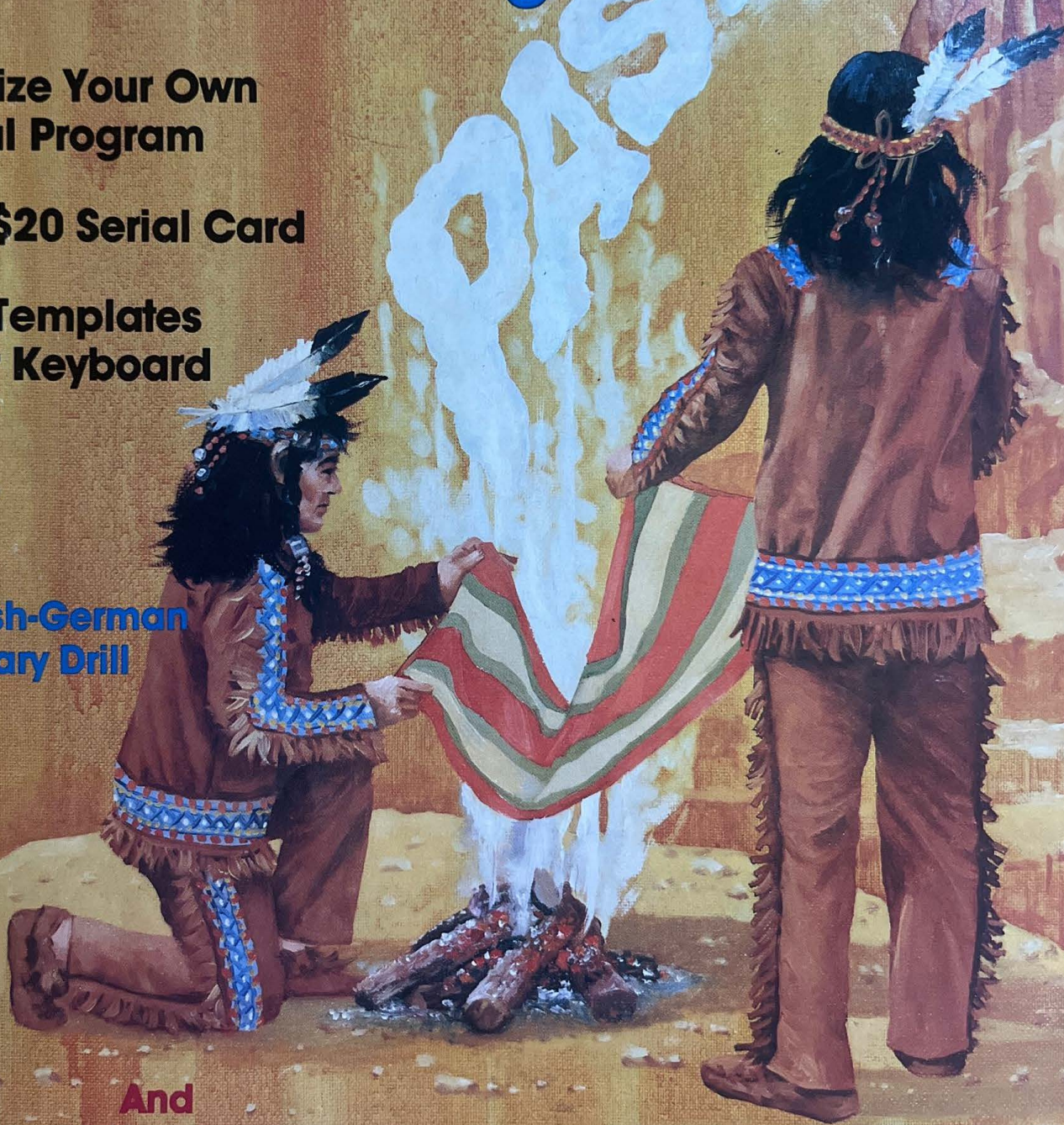
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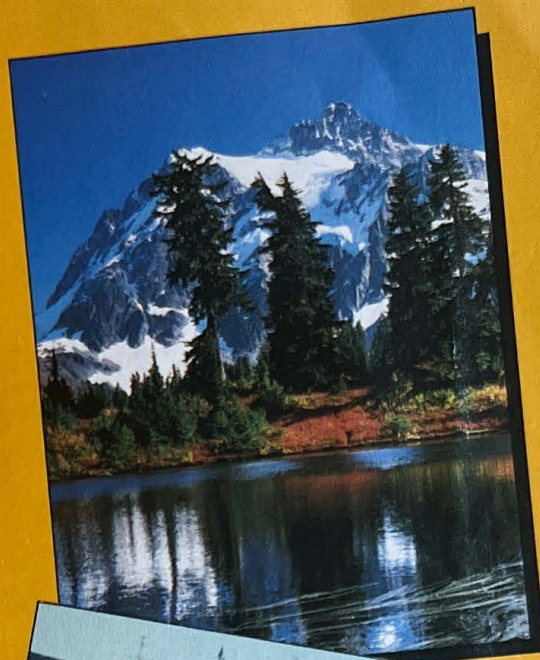


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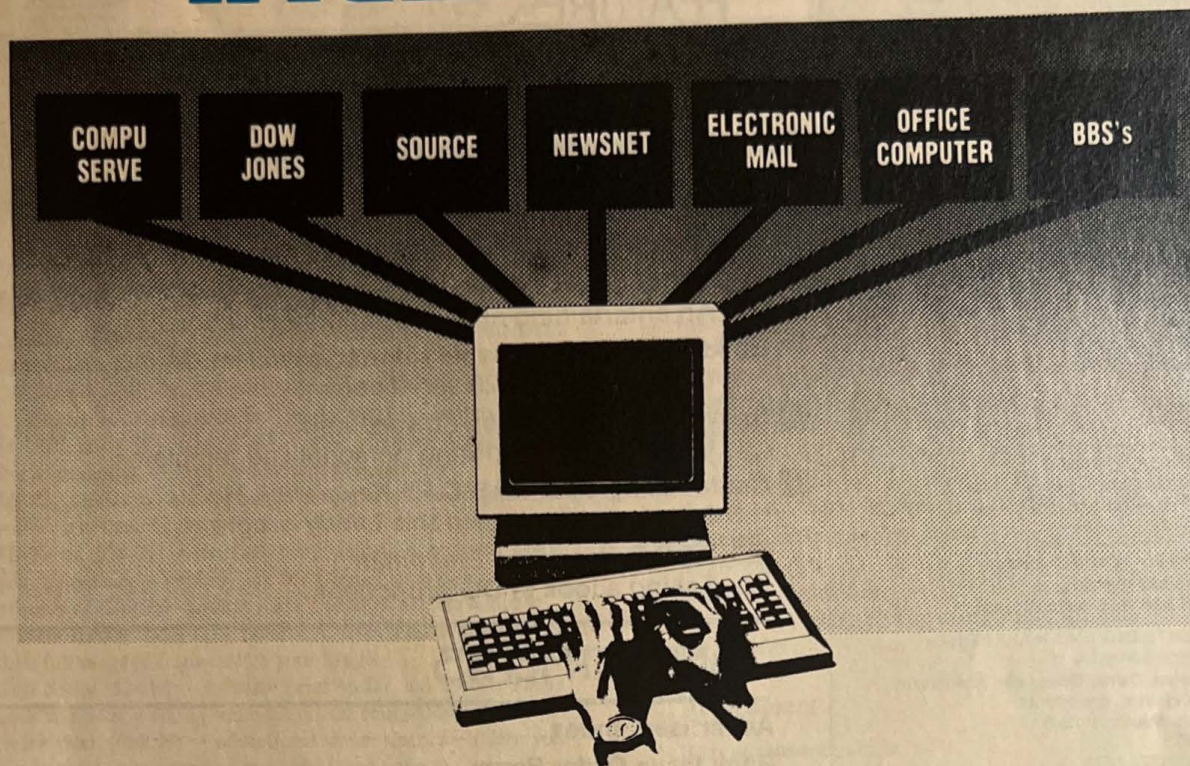
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The Monthly Magazine for
Sanyo Personal Computer Users

Vol. III, Issue 4

November 1986

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SOFT SECTOR — The Monthly Magazine for Sanyo Personal Computer Users (ISSN 8755-7460) is published every month of the year by FALSOFT, Inc., The Falsoft Building, P.O. Box 385, Prospect, KY, 40059. Phone (502) 228-4492. **SOFT SECTOR** — The Monthly Magazine for Sanyo Personal Computer Users, **SOFT SECTOR ON DISK** and the **SOFT SECTOR** logotypes are registered ® trademarks of FALSOFT, Inc.

Second Class Postage Rates are paid at Prospect, Kentucky and additional offices. USPS 741-750. POSTMASTER: Send address changes to **SOFT SECTOR**, P.O. Box 385, Prospect, KY 40059. Forwarding Postage Guaranteed.

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Subscriptions to **SOFT SECTOR** — The Monthly Magazine for Sanyo Personal Computer Users are \$28 per year in the United States. Canadian rates are U.S. \$35. Surface mail to other countries is U.S. \$64, air mail U.S. \$85. All subscriptions begin with the next available issue.

Payment accepted by VISA, MasterCard, American Express, Cash, Check or Money Order in United States currency only. Full refund after mailing of one issue. A refund of 10/12ths the subscription amount after two issues are mailed. NO refund after mailing of three or more magazines.

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- The small disk symbols appearing beside features and regular columns indicate that the program listings with those articles are on this month's **SOFT SECTOR ON DISK**, ready to LOAD and RUN. For full details, see the **SOFT SECTOR ON DISK** ad on Page 6.



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SOFT SOAPBOX

In 1876, when Alexander Graham Bell had his first

successful voice transmission over the telephone, it's doubtful he realized the multitude of uses his invention would provide for modern communication.

And, with the "age of communication" being what it is — mainly a mad dog rush to see who can provide information most accurately and quickly — people are turning to sources that provide an immediate response to their growing need for information.

While the telephone, radio and television are the most direct sources, newspapers and magazines have remained popular and these media continue to serve their audiences well. However, as new needs develop, so are new forms of communications developed.

The form of communication we're talking about here is data communications — sometimes called telecomputing. When you combine your computer with a modem and a terminal program and join an information network such as Delphi, there are no limits to what you can do. You can access hundreds of electronic services that provide on-the-spot information and can cater to your needs, whatever they may be.

You'll find things such as information on where to invest your money, career placement, shopping by mail, online news bulletins, public domain software, electronic mail services, product reviews, law, medicine, and on and on.

Many of you who have already joined the masses that have entered the world of telecomputing are seeing for

yourself the advantages of subscribing to these networks. This month's theme is communications, and the information you'll find here is meant to enhance what you know about telecomputing and help explain what you would like to learn.

You'll find a BASIC terminal program on Page 10 that you can customize to suit your own telecomputing needs or that you can use as basis for writing your own program. There is also a hardware project that teaches you how build your own programmable interface on Page 33.

Not only does SOFT SECTOR offer information on telecomputing in this issue, we also provide hands-on experience in telecomputing by sponsoring an MS-DOS Special Interest Group (SIG) on Delphi's information network. And, when you can't find the information you need from the SIG or in your Delphi manual, you can usually find it in "Delphi Bureau," published in SOFT SECTOR each month to give you concise, in-depth "how-to and what's new" information.

Through this SIG, you get immediate answers to technical questions not only from our staff, but from other subscribers who want to share their experiences with you. You can talk to "gurus" in the computer world you might not otherwise get a chance to meet, and you get the latest on what's new in the computing field.

Change is an integral part of growth, and just as the telephone has changed over the years and its uses grown, so has the computer industry changed and grown. This year, PC compatibles have been developed to rival Big Blue in all areas. We have seen major changes in industry trends and we're sure to see more.

And, as change is needed to ensure growth, you will see major changes in SOFT SECTOR within the next few months to keep pace with your needs as they grow and change.

— Belinda Kirby

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LETTERS TO THE EDITOR

PATCHES AND PRAISE

Editor:

I have a few items of interest for **SOFT SECTOR** that may be of help to many readers.

Recently, I discovered a way to run *Lotus 1-2-3* Version 1A on the MBC-555 without a video board. Since I have Bob Jack's 512K memory upgrade from an earlier edition of **SOFT SECTOR**, it seemed fruitless to ruin all my work installing (and buying) a 512K video board. I came across a software package which was very reasonably priced for under \$50, from Software Answers, sold through one of your advertisers, Block Marketing. It requires only 256K of memory, a monochrome monitor and the IBM version of *Lotus*. It gives you the proper drivers for graphics, text and keyboard. It doesn't touch the *Lotus* files at all. I've tried it and it works extremely well. It sure beats spending over \$200 for the video board!

I have also located a few more patches for *WordStar* not so well-known to many users. It is user-supported software from Prairie Physics, which I had downloaded from the Utilities Database of the MS-DOS SIG of Delphi. One *WordStar* patch allows speed up of the menu changeovers, another redefines the PF keys of *WordStar*, plus there are a couple more very useful *WordStar* patches.

There are 28 utilities in all, including a *DiskEdit*, *BASIC PF Key Instruction*, which allows redefinition of default PF keys in *BASIC* (up to Version 1.35 — I've used it!), plus too many to list due to space limitations. It is an archived program; that is, programs and documentation squeezed into one file, saving download time. To use, you must first download *ARC512.EXE* to enable disassembly of the individual files (see last month's "Delphi Bureau"). If you like it, the creators would appreciate a donation if you feel it is appropriate.

Speaking of good deals, in the October issue of **SOFT SECTOR**, Ed Beach showed how to "rig" the drive lights on the 555. Don't be afraid to follow it if you have ever given thought to those irritating LEDs on the drives. So far, it's the only one I've seen that will work, and work it does! I tried it the day I received the issue, and I'm extremely happy with it. I obtained my MBC through NRI, (Ed's employer) and learned a great deal from the course.

That's it in a nutshell. I think many readers can benefit from this information, so

I'd appreciate you using it as you see fit, and where you see fit. I'd like to thank your staff for a job extremely well done, and as everyone else passes along — "keep up the good work."

Russ Blakeman
Rantoul, IL

GREAT GADGET!

Editor:

I bought my Sanyo 550 about a year ago and have been immensely satisfied. My personal interest is primarily *WordStar* which, with various patches, has functioned flawlessly. However, I also wanted to use it as a checkbook register and calculator and, unfortunately, after a limited number of entries, *CalcStar* reports insufficient memory. So, a year later, in view of the decline in prices for additional memory, I invested \$15 with one of your advertisers for a memory upgrade: 16 chips for \$15.

The 16 Hitachi chips were installed with the greatest of ease thanks to the excellent directions in the *Sanyo Operator's Guide*, and Radio Shack's IC Inserter & Extractor Set, a lovely pair of gadgets. The Inserter makes the installation of the chips a breeze! It grabs the chip and aligns the various connections, after which one pushes a plunger and, lo the job is done! All I did was ground myself with a wire from a finger to a sliding metal door. Simple! The extended memory now functions flawlessly.

This letter must be at least a year too late, but if anyone is still interested in expanding Sanyo-san's memory from 128K to 256K, I seriously recommend Radio Shack's superb little gadget to simplify the undertaking.

Allan E. Bayless
Los Angeles, CA

VIDEO BOARD EASYWRITER

Editor:

In the September '86 issue of **SOFT SECTOR**, someone asked if there was a way to use the Sanyo version of *EasyWriter 1* on the video board or on an IBM machine. I found a patch for *EasyWriter 1* on the Novi bulletin board system written by the SysOp Ralph Landry of Michigan Software.

>DEBUG EWPRGM.COM	ENTER
-A 085A	ENTER
-JMP 0863	ENTER
-NOP	ENTER ENTER
-A 04C9	ENTER
-MOV CX,0607	ENTER
-NOP	ENTER ENTER
-W	ENTER
-Q	ENTER

The other .COM files on the *EastWriter 1*

disk should have the patch installed on them as well.

I tried the patch on a backup copy and it works fine as far as I know. This is the first time I used *EasyWriter 1* and I'm using it with the video board patch.

Lawrence E. Ritch
Charlotte, NC

PERFECT PRINTING

Editor:

This letter is in response to a letter from R.L. Roy which appeared in "Business Sector" (August '86, Page 61) regarding configuration of a Silver Reed 500 to *EasyWriter 1*. I agonized over trying to custom configure my NEC LQ 15 until I discovered it was identical to the Sanyo 5500.

When I configured my printer as a Sanyo printer, all functions worked. Since then, I have learned that the Silver Reed, Sanyo, NEC LO 15 and Transtar 120 all have the same parents, and are all Diablo 1610 compatible.

Mr. Roy and others can use the Sanyo configuration successfully. Incidentally, Silver Reed seems to be the "parent" of all, and Silver Reed ribbons and printwheels are readily available. These items work with the other printers mentioned.

Kenneth Davis
Dayton, OH

NAME CHANGE

Editor:

We are now the only Sanyo Authorized Dealer in the Chattanooga area. Our company looks forward to your continued support of the Sanyo computer systems. Also, please make note of our new company name. It has been changed from Rock City Computers to Northgate Computer Center. We also changed the name of our Sanyo BBS (which has been part of the SOFT SECTOR Sanyo BBS list) from The Rock City Student BBS to The NCC Student BBS.

Rock City Computers
Giorgio Torregrosa
Chattanooga, TN

VIDEO ROUNDUP

Editor:

I think that I can add some information to the question from Denis Kitchen ("Input/Output," September '86, Page 35) on stray reverse video blocks in column one when using *WordStar*. The blocks are actually cursors which are not being erased properly. Mr. Kitchen apparently is using a program which makes the cursor a block, rather than the standard underline.

The stray cursors appear to show up when I do rapid consecutive returns. They appear to be on the screen *only* and do not affect the data files.

I do not know exactly what conditions create the stray cursors but I have an MBC-555-2 without the video board. I also have a Missing Link memory expansion. I use

DS-DOS Plus along with RAM disk and print spooler software.

Gary Welch
St. Joseph, MI

ACCENTED PRINT

Editor:

I just received the September '86 issue of SOFT SECTOR and noticed the question of Dr. Gorman from Toronto ("Business Sector," Page 60) regarding the accents for French text, etc.

I went through the same "agony" to find a solution, so I'm glad to help him out.

One of the jobs that my company is involved with is technical translations of certain manuals, etc. We use *VolksWriter* with an Epson-like dot-matrix printer. The program disk has two files on it that enable the user to create "translation" tables. These files are called KEYBD.INT and PRINT.INT. From these files, select the keys you want to change to a foreign letter, and then resave these two files as KEYBD.FRE or KEYBD.GER with the suffix .FRE for French text or .GER for German. These two files are saved on to your data file disk, normally in Drive B.

When you use the program, you simply have to name the new file that you are creating, with the matching suffix .FRE or .GER, and the keyboard and printout are changed or translated into one that has the appropriate accents. I find that you can use the four keys close to the return key for the letters with accents, as they normally contain brackets and slashes that are seldom used for most work.

We find the program easier to use and more logical than *WordStar*!

Michael J. Waters
Tracy, Quebec

Editor:

I just received my September '86 issue of SOFT SECTOR and would like to offer some suggestions to Richard Gorman to use French or German characters with an Epson printer. The printer control codes for the Epson FX-80 series (I assume that the CO-80 would be similar) and the Panasonic KX-P1091, which I have, are identical for all the commands that I use.

These are the only user-definable commands that I have been able to install:

User patch 1:	^PQ	Begin italics
2:	^PW	End italics
3:	^PE	Begin bold type
4:	^PR	End bold type
Alternate pitch:	Elite	
Normal pitch:	Pica	
Ribbon Control:	^PY	(first time) Begin French
	^PY	(second time) Return to English
Carriage Roll:	^PT	Begin continuous underline code
	^PV	End continuous underline code (Use ^PT to begin and again to end.)
Backspace:	^PH	(This is important for accents.)

WizStar is very useful to display recognizable codes for the 20 PF keys that can be set for the most frequently used control sequences. This is easier than memorizing unrelated keystrokes.

The codes could be changed to User Patch 1 as English, 2 for French, 3 for German, and 4 for another language. Or, the alternate pitch code could be selected for the second language.

The decimal codes for the Panasonic and Epson printers are as follows (when using *Install*, decimal codes must be preceded by the number symbol, #):

Begin italics	27,52
End italics	27,53
Begin bold	27,29
End bold	27,70
Begin French	27,82,1
Begin German	27,82,2
Return to English	27,82,0
Begin underline	27,45,1
End underline	27,45,0
Backspace	8
Pica	27,80
Elite	27,77

After sending the foreign language command to the printer, it will recognize certain keyboard characters as the correct letters or accents; the keyboard character will be displayed on the monitor.

The printer manual will list which keyboard characters correspond to the correct foreign characters. As an aid, it is a good idea to print a line of the standard characters and then insert the foreign set control character and duplicate the characters on the second line. Insert the second language code and repeat the same keyboard characters. Finally, insert the standard English code. All three lines will be identical on the monitor (except for the inserted control codes), but the printer will interpret the second and third lines as the foreign character sets. This is how the printed comparison should look:

Keyboard characters
French
German

When a letter with its accent is not available as a single character, then a backspace should be inserted after the letter, followed by the correct accent. The printer will then display the correct letter.

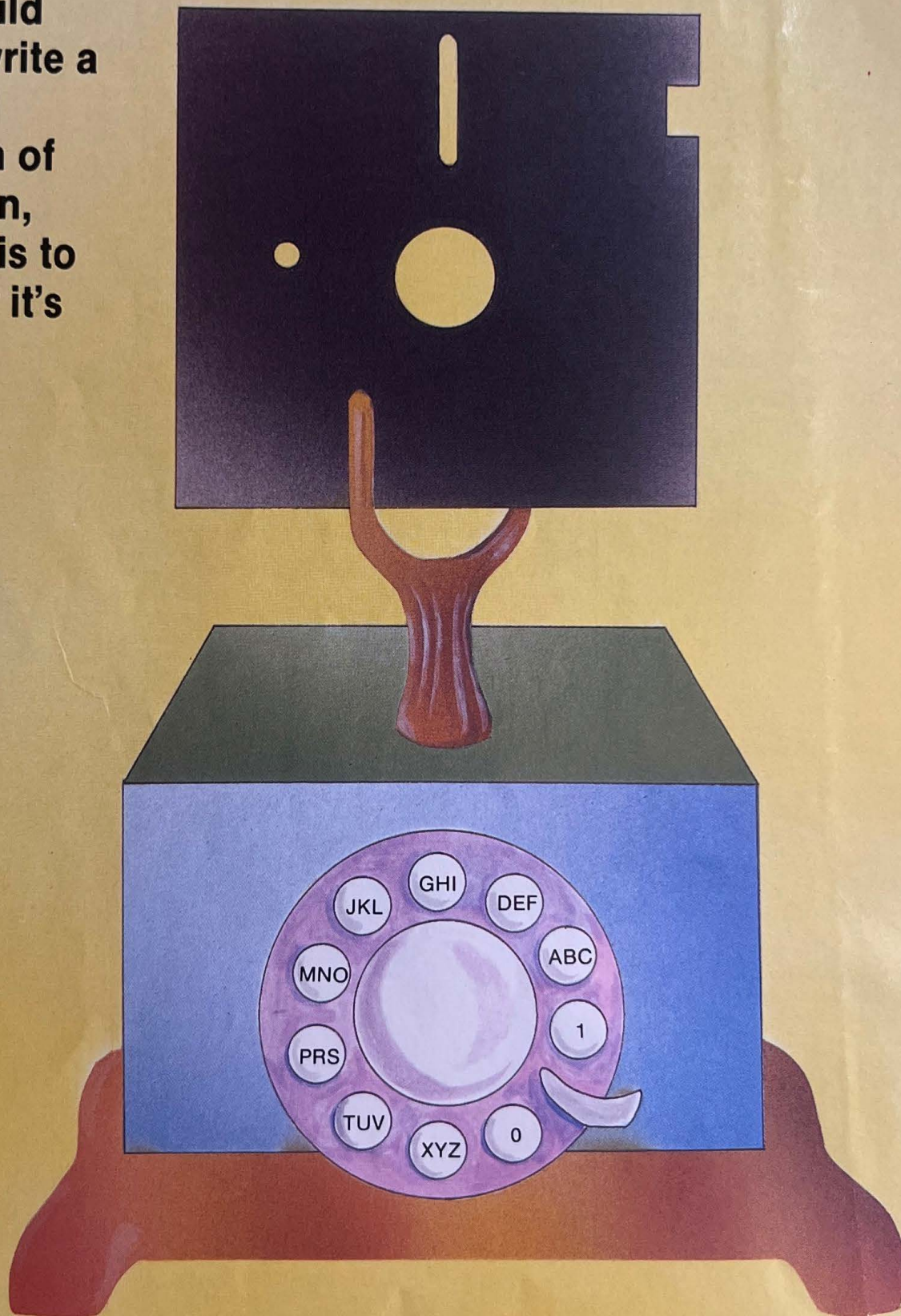
One problem that occurs with using foreign language symbols is that it is difficult to do any proofreading from the monitor as the characters may not be what they appear to be. A partial solution is to remove the control characters from view using ^OD (repeat to display them again). The keyboard equivalents of the characters will still be displayed.

I hope this information will be useful to other readers who also use foreign languages in their documents.

David E. Ritter
Pottstown, PA



**If you're
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Telecommunicating in BASIC

By James G. Haywood

When I purchased my Sanyo, I was interested in telecommunications as well as personal computing. Since the Sanyo MBC-550 had just been released a few short months before my purchase, there was not much available on the open market in the way of telecommunications software. In fact, my dealer could recommend only one company which provided such a software package. This program turned out to work well enough, but was very large and bulky in size and was not totally bug free. Having written several customized telecommunications programs in BASIC for work projects, I decided to write my own software for the Sanyo. Fortunately, Sanyo did a fine job of hardware documentation and I was quickly able to determine the port and interrupt addresses for the RS-232 serial port. With this information, I was quickly able to put together a simple three-line BASIC program which would allow the Sanyo to act as a dumb terminal.

```
10 IF (INP(42) AND 2)=2 THEN
  IC=INP(40) AND 127 : PRINT CHR$(
    IC); : GOTO 10
20 X$=INKEY$: IF X$="" THEN 10 ELSE
  IC=ASC(X$)
30 WAIT 42,1 : OUT 40,IC : GOTO 10
```

The logic of this three-line program is as follows:

Line 10 — Check interrupt for incoming characters. If true, then read the character, strip off the high bit and assign to variable IC. Print character equivalent

James Haywood is a meteorologist and computer applications specialist for environmental consultants Dames and Moore. He enjoys programming in FORTRAN and BASIC and may be contacted at 1846 Hoffman, Suite 101, Madison, WI 53704; (608) 244-1788.

of IC and return to check interrupt.

Line 20 — Check for any character entered from keyboard. If false, then return to Line 10. If true, set variable IC to ASCII equivalent of entered character.

Line 30 — Wait until transmit buffer is clear. Output variable IC to the port. Return to Line 10.

Of course, there are certain limitations when using a simple program like this.

1. When run with interpreter BASIC, 110 or 300 Baud rate must be used. Sanyo BASIC simply cannot keep up with a faster rate. Use LINE55.COM to set up a 300 Baud, 8-bit, no parity, 1 stop bit configuration.
2. Full duplex is assumed. This means that to see what you have typed, the host computer must echo back each character it receives.
3. No files can be uploaded or downloaded.
4. Only ASCII characters can be read or transmitted.
5. A carriage return/line feed sequence is expected from the host computer.

If simple communication with another computer is all you need, this program works well and takes up little space on a disk. However, I usually need to transfer data files from my Sanyo to my office's mainframe, therefore I expanded my three-line program to be able to transfer files. The source code for SANTALK.BAS is provided. Once run, type CONTROL-E and you will see a menu onscreen. The menu options are:

1. File to Send — Transmit an ASCII file
2. File to Receive — Receive an ASCII file
3. Echo — Toggle between full and half duplex

4. Close File — Close file opened in Option 2. If no file has been opened, an error will occur.
5. Quit — Return to the operating system
6. Phone — Display phone directory for auto-dial. The file PHONE.DIR must reside on the default directory or an error will occur.
7. XON/XOFF — Toggle between use of XON/XOFF
8. Stopwatch — Toggle for clock timer; useful when connected to a subscription service.

Again, there are certain limitations to consider:

1. The Baud rate rule still applies.
2. Only ASCII files can be transferred.
3. There is no error checking. If an error occurs, the program crashes.
4. The program defaults to a 1000-line buffer with no XON/XOFF for receiving files. However, after a few hundred lines are loaded into the buffer, it takes BASIC increasingly longer to load data into the buffer and random characters may be lost. If the file being downloaded is longer than 200 lines, I recommend using XON/XOFF, which dumps the buffer every 150 lines. This should reduce most chances of losing data.
5. If Option 5 (QUIT) is chosen before a file opened in Option 2 is closed, the program automatically writes any remaining data in the buffer to disk.
6. If Option 6 (PHONE) is used, the file PHONE.DIR must exist on the default drive. The setup for PHONE.DIR is as follows:

Line 1 — Modem protocol (e.g., "ATDT" for Hayes protocol)
Line 2 — Long distance service codes such as MCI (e.g., "267

2276,,23876") Use a plus (+) before chosen number to enact. Use "N/A" if no service exists.

Line 3 — Description of number and number (e.g., "Telenet ", "237 8765")

Repeat Line 3 for each number used.

7. CONTROL-C is replaced with CONTROL-X. Since CONTROL-C stops program execution, the software sends out a CONTROL-C when a CONTROL-X is entered.

8. I've used this program successfully with MS-DOS versions 1.25 and 2.11. I have not tried it with the Video RAM Board.

While I'm not trying to replace any marketed or freeware telecommunications programs, I've found my program to be a quick and easy way for simple telecommunications. More important, the knowledge of how to access your RS-232 port directly through BASIC, which I have hopefully provided, can be quite handy when writing your own future programs!

The listing: SANTALK.BAS

```
10 CLS : LOCATE 12,35 : COLOR 0,3 : PRINT "SANYO-TALK";
20 LOCATE 14,22 : PRINT "by JIM HAYWOOD PROSPECT HTS, IL";
30 LOCATE 16,30 : PRINT "hit <CR> to continue"; : COLOR 2,0
40 LOCATE 20,25 : COLOR 7,0 : PRINT "Use Control-E for menu prompt" :COLOR 2,0
50 BS=INPUT$(1) : CLS
60 DEFINT I-N
70 DIM A$(1000)
80 IECHO=0 : I=1 : ICLOSE=0 : TEMP$="" : IDIR=0 : IX=0
90 REM *****
100 REM ** NORMAL TERMINAL ROUTINE *****
110 REM *****
120 IF (INP(42) AND 2)=2 THEN IC=INP(40) AND 127 : IF IC<10 THEN 170
130 X$=INKEY$ : IF X$="" THEN 120 ELSE IC=ASC(X$)
140 IF IC=5 THEN 680
150 IF IC=24 THEN IC=3
160 WAIT 42,1 : OUT 40,IC : IF IECHO=0 THEN 120
170 IF IC=13 THEN PRINT : GOTO 120
180 PRINT CHR$(IC); : GOTO 120
190 REM *****
200 REM ** ROUTINE TO RECEIVE DATA FILE *****
210 REM *****
```

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```

220 COLOR 0,3 : PRINT "ENTER RECEIVING DATA FILE:";
230 COLOR 2,0 : INPUT " ",FILE$: CLS
240 OPEN "O",1,FILE$: WAIT 42,1 : OUT 40,13
250 IF (INP(42) AND 2)=2 THEN IC=INP(40) AND 127 : IF IC<10 THEN 300
260 X$=INKEY$: IF X$="" THEN 250 ELSE IC=ASC(X$)
270 IF IC=5 THEN 680
280 IF IC=24 THEN IC=3
290 WAIT 42,1 : OUT 40,IC : IF IECHO=0 THEN 250
300 IF IC=13 THEN A$(I)=TEMP$:TEMP$="" : I=I+1:PRINT :IF I=151 GOTO 330 ELSE 250
310 TEMP$=TEMP$+CHR$(IC) : PRINT CHR$(IC); : GOTO 250
320 REM ***** CHECK FOR XON/XOFF AND DUMP IF TRUE *****
330 IF IX=0 THEN 250
340 WAIT 42,1 :OUT 40,19 :FOR IW=1 TO 150 :PRINT #1,A$(IW) :A$(IW)="" :NEXT IW
350 TEMP$="" : I=1 : WAIT 42,1 : OUT 40,17 : GOTO 250
360 REM *****
370 REM ** ROUTINE TO SEND DATA FILE *****
380 REM *****
390 COLOR 0,3 : PRINT "ENTER FILE TO SEND:";
400 COLOR 2,0 : INPUT " ",FILE$: CLS
410 OPEN "I",2,FILE$
420 WHILE NOT EOF(2)
430 B$=INPUT$(1,2) : WAIT 42,1 : IF ASC(B$)<10 THEN OUT 40,ASC(B$)
440 IF (INP(42) AND 2)=2 THEN IC=INP(40) AND 127 : PRINT CHR$(IC); : GOTO 440
450 X$=INKEY$: IF X$="" THEN 480
460 IF IECHO<0 THEN PRINT B$;
470 WEND
480 BEEP : PRINT : COLOR 0,3
490 PRINT "END OF FILE "; : COLOR 2,0 : PRINT : CLOSE #2 :GOTO 120
500 REM *****
510 REM ** ROUTINE TO CLOSE DATA FILE *****
520 REM *****

```

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```

530 FOR IW=1 TO I : PRINT #1,A$(IW) : A$(IW)=" " : NEXT IW
540 CLOSE #1 : COLOR 0,3 : PRINT "FILE ";FILE$;" CLOSED";
550 COLOR 2,0 : PRINT : PRINT
560 IF ICLOSE<>0 THEN SYSTEM
570 I=1 : GOTO 120
580 REM *****
590 REM ** ROUTINE TO TRIGGER ECHO *****
600 REM *****
610 IF IECHO=0 THEN IECHO=1 ELSE IECHO=0
620 COLOR 0,3
630 IF IECHO=0 THEN PRINT "ECHO OFF"; ELSE PRINT "ECHO ON";
640 COLOR 2,0 : PRINT : PRINT : GOTO 120
650 REM *****
660 REM ** MENU ROUTINE *****
670 REM *****
680 PRINT : PRINT : COLOR 0,2
690 PRINT "1=FILE TO SEND : 2=FILE TO RECEIVE : 3=ECHO :";
700 PRINT " 4=CLOSE FILE : 5=QUIT : 6=PHONE " : COLOR 2,0:PRINT:PRINT:COLOR 0,2
710 PRINT "7=XON/XOFF      : 8=STOPWATCH";
720 COLOR 2,0 :PRINT :PRINT :X$=INPUT$(1) : IF VAL(X$)<1 OR VAL(X$)>8 THEN 120
730 ON VAL(X$) GOTO 390,220,610,530,740,790,980,1050
740 CLS : IF I>1 THEN ICLOSE=1 : GOTO 530
750 SYSTEM
760 REM *****
770 REM ***** PHONE COMMANDS *****
780 REM *****
790 IF IDIR<>0 THEN 850
800 OPEN "I",3,"PHONE.DIR"
810 INPUT #3,HAYES$
820 INPUT #3,DISTANCE$
830 N=0 : WHILE NOT EOF(3) : N=N+1 : INPUT #3,SOURCE$(N),PHONE$(N) : WEND
840 CLOSE #3 : IDIR=1
850 CLS
860 PRINT "HAYES PROTOCOL: ";HAYES$
870 PRINT "LONG DISTANCE PROTOCOL: (use + before number) ";DISTANCE$ : PRINT
880 PRINT "# 0  EXIT FROM PHONE MENU "
890 PRINT
900 FOR K=1 TO N : PRINT "#";K;" ";SOURCE$(K);PHONE$(K) : NEXT : PRINT : PRINT
910 INPUT "ENTER PHONE CHOICE: ",XPHN$
920 IF MID$(XPHN$,1,1)<>"+" THEN D$=" " : ELSE D$=DISTANCE$
930 PH=VAL(XPHN$) : IF PH=0 THEN 120
940 WAIT 42,1:OUT 40,13:SOUT$=HAYES$+D$+PHONE$(PH)+CHR$(13):GOSUB 1160:GOTO 120
950 REM *****
960 REM ** ROUTINE TO SET XON/XOFF PROTOCOL **
970 REM *****
980 COLOR 0,3 : IF IX=0 THEN IX=1 ELSE IX=0
990 IF IX=0 THEN PRINT "XON/XOFF IS OFF - BUFFER LIMIT IS 1000 LINES";
1000 IF IX=1 THEN PRINT "XON/XOFF IS ON - BUFFER WILL DUMP EVERY 150 LINES";
1010 COLOR 2,0 : PRINT : PRINT : GOTO 120
1020 REM *****
1030 REM ** STOP WATCH ROUTINE *****
1040 REM *****
1050 COLOR 0,3 : IF ISTART=1 GOTO 1090
1060 T1=VAL(MID$(TIME$,1,2))*3600+VAL(MID$(TIME$,4,2))*60+VAL(MID$(TIME$,7,2))
1070 PRINT " START TIME IS ";TIME$; : COLOR 2,0 : ISTART=1
1080 PRINT : PRINT : GOTO 120
1090 T2=VAL(MID$(TIME$,1,2))*3600+VAL(MID$(TIME$,4,2))*60+VAL(MID$(TIME$,7,2))
1100 MIN=INT((T2-T1)/60) : SEC=(T2-T1)-(MIN*60)
1110 PRINT " STOP TIME IS ";TIME$;" ** ELAPSED TIME IS ";MIN;" MINUTES ";SEC;
"SECONDS **";
1120 COLOR 2,0 : ISTART=0 : PRINT : PRINT : GOTO 120
1130 REM *****
1140 REM ** OUTPUT A PHONE STRING *****
1150 REM *****
1160 FOR K=1 TO LEN(SOUT$) : WAIT 42,1 : OUT 40,ASC(MID$(SOUT$,K,1))
1170 IF (INP(42) AND 2)=2 THEN IC=INP(40) AND 127 : PRINT CHR$(IC);
1180 NEXT : RETURN

```

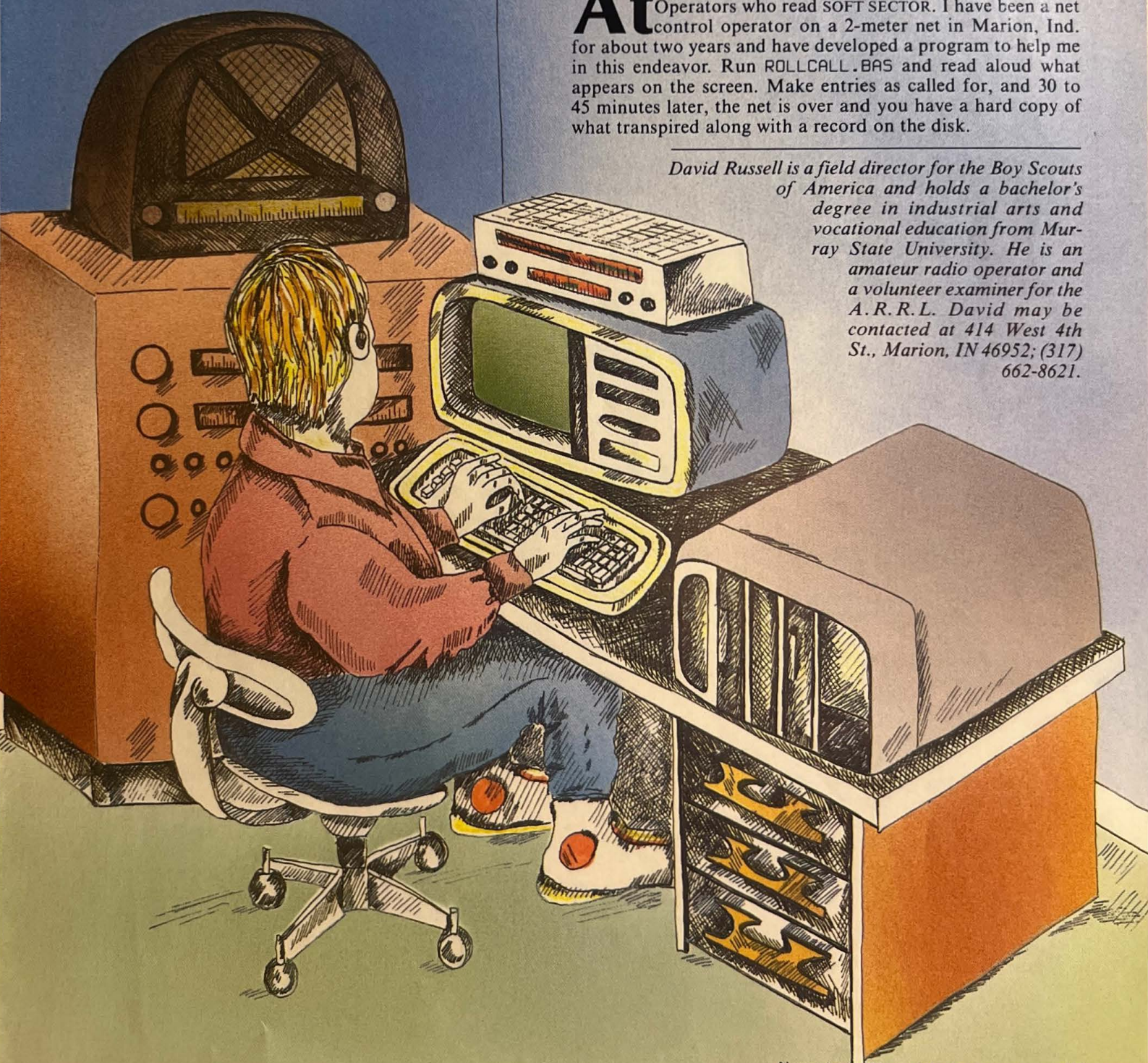

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Roll Call on the Airwaves

By David Russell

At last there is a program for the Amateur Radio Operators who read **SOFT SECTOR**. I have been a net control operator on a 2-meter net in Marion, Ind. for about two years and have developed a program to help me in this endeavor. Run **ROLLCALL.BAS** and read aloud what appears on the screen. Make entries as called for, and 30 to 45 minutes later, the net is over and you have a hard copy of what transpired along with a record on the disk.

David Russell is a field director for the Boy Scouts of America and holds a bachelor's degree in industrial arts and vocational education from Murray State University. He is an amateur radio operator and a volunteer examiner for the A.R.R.L. David may be contacted at 414 West 4th St., Marion, IN 46952; (317) 662-8621.



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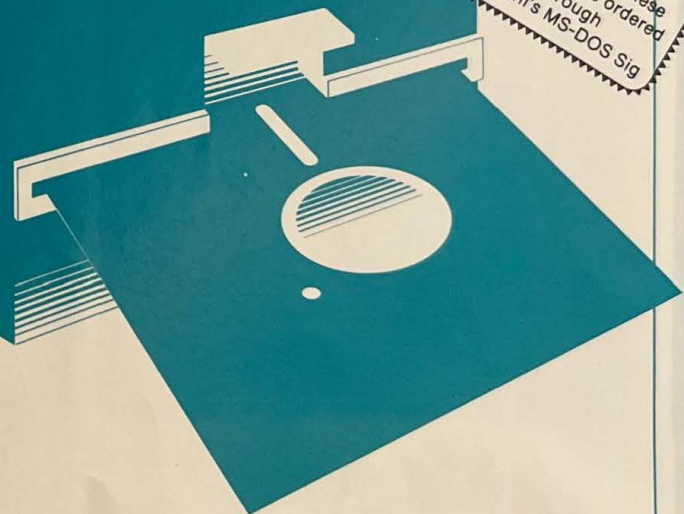
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When you run the program, you are asked for the date and your call sign. After you enter these, you are asked for the net master file which is named DATA. The program loads the file and what you need to say appears on the screen with your call inserted.

The first input you have to do is for "Calls of Amateurs" with priority traffic. Simply enter their calls as they call in, then go back to them and pass their traffic.

Next, ask for short timers to check in and type in their calls. Short timers are amateurs who won't be able to stay around for comments later. Then begin the actual roll call by entering an equal sign (=).

The names and calls will appear one at

a time and you will designate each call as follows:

1. Checked In
2. Not Checked In
3. Has Minor Traffic

The short-timer list appears in a "window" in the lower right-hand side of the screen so you won't call them again. After you finish the roll call, ask if there is anyone else who wants to check in. These are late calls, so when you enter them, they will appear last on the comment section. Enter '=' and the check-ins are displayed eight at a time until all have been given an opportunity to respond.

The screen now directs you to ask for late check-ins. Enter their calls as they check in. Then enter '=' and the screen tells you what to say to end the net as well as telling you how many Hams checked in. Assign a filename as directed and the file for the night's net is recorded. The printer has been making a hard copy for you as you have been progressing. The net is over and the program thanks you.

I hope you find this program a useful tool in your Net Operation. Several improvements could be added, such as color for RGB Monitors, etc. I've had a lot of fun developing it, and I hope you have fun using it.

Listing 1: ROLLCALL.BAS

```

10 *****
20 ***** VHF      NET *****
30 ***** ROLLCALL  PROGRAM *****
40 *****
50 *****
60 *****BY DAVID RUSSELL, BEECHER WATERS & PURDLE BRISCOE *****
70 '
80 '
90 CLS
100 XX=0
110 PRINT "          ENTER TODAYS DATE (MM/DD/YY) ";DD$
120 INPUT DD$
130 PRINT "          ENTER YOUR CALL SIGN ";PP$
140 INPUT PP$
150 LPRINT DD$;" ";PP$
160 PRINT "          ENTER FILE NAME <B: DA(M,D,Y) DA112384>"
170 INPUT W$
180 CLS
190 LOCATE 10,30
200 PRINT "LOADING ";W$
210 DIM R$(100),A(100,10)
220 OPEN "I",1,W$
230 FOR R1=1 TO 50
240 IF EOF(1) GOTO 270
250 INPUT #1,R$(R1)
260 NEXT R1
270 CLOSE
280 CLS
290 PRINT "*****
*****"
300 PRINT "***** VHF NET CONTROL PROGRAM *****
*****"
310 PRINT "***** BY N9DKB, WB9YHF & N9ETM *****
*****"
320 PRINT "*****
*****"
330 PRINT
340 PRINT
350 PRINT
360 PRINT "          WELCOME TO THE GRANT COUNTY V H F NET."
370 PRINT
380 PRINT "          THIS IS ";PP$;"- I'LL BE CONTROL OPERATOR TONIGHT."
390 PRINT
400 PRINT "          IS THERE ANY PRIORITY TRAFFIC ? PLEASE CALL ";PP$
410 PRINT
420 LPRINT CHR$(14);"GRANT COUNTY VHF NET CHECK IN'S";CHR$(20);CHR$(10)

```



```

430 LPRINT CHR$(15);CHR$(14);" PRIORITY TRAFFIC";CHR$(20)
440 LPRINT CHR$(18)
450 PRINT
460 PRINT "<ENTER (=) TO CONTINUE>"
470 PRINT
480 YY=1
490 FOR J=1 TO 100
500 INPUT J$(J)
510 LPRINT J$(J)
520 IF J$(J)="=" THEN GOTO 540
525 COUNT=COUNT+1
530 NEXT J
540 PRINT "                IS THERE ANYONE ON SHORT TIME ? PLEASE CALL ";PP$
550 LPRINT CHR$(15);CHR$(14);" SHORT TIME CHECK-INS ";CHR$(20)
560 LPRINT CHR$(18):PRINT:PRINT "< ENTER (=) TO CONTINUE>"
570 YY=1
580 FOR AA=1 TO 100
590 INPUT J$(AA)
600 SN$(AA)=J$(AA)
610 LPRINT J$(AA)
620 IF J$(AA)="=" THEN GOTO 640
625 COUNT=COUNT+1
630 NEXT AA
640 CLS
650 FOR R=1 TO R1-1
660 CLS
665 LOCATE 8,15:PRINT "GRANT COUNTY V. H. F. NET"
670 WINDOW(399,133)-(639,199)
680 VIEW(399,133)-(639,199)
685 LINE(399,133)-(639,199),4,B
690 FOR I=1 TO AA-1
695 LOCATE 15,60:PRINT "SHORT TIME":LOCATE 16,58:PRINT "*****"
700 LOCATE (17+I),55:PRINT SN$(I)
710 NEXT I
720 LOCATE 17,1:PRINT R$(R)
730 PRINT "1=YES 2=NO 3=TRAFFIC"
740 PRINT "WHAT WAS THE RESPONSE?"
750 INPUT C
755 IF C=1 OR C=3 THEN COUNT=COUNT+1
760 IF C<1 THEN 750
770 IF C>3 THEN 750
780 PRINT
790 IF C=2 THEN R$(R)=" "
800 A(R,C)=1
810 NEXT R
820 PRINT:PRINT "ANY LATE CHECK IN'S ? "
830 PRINT "ENTER CALLS -<ENTER (=) WHEN FINISHED>"
840 XX=1
850 FOR I=R TO 100
860 INPUT R$(I)
870 IF R$(I)="=" THEN GOTO 900
875 COUNT=COUNT+1
880 NEXT I
890 GOSUB 820
900 CLS:PRINT "THE RESPONSES WERE ":PRINT
910 LPRINT "THE RESPONSES WERE:" :LPRINT
920 PRINT "CALL","YES";" NO";" TRAFFIC"
930 LPRINT "CALL","YES";" NO";" TRAFFIC"
940 PRINT "-----"
950 LPRINT "-----"
960 IF XX=1 THEN ZZ=I-1 ELSE ZZ=R-1
970 FOR X=1 TO ZZ
980 IF R$(X)="=" THEN GOTO 1040
990 P=P+1
1000 IF P=9 THEN PRINT "PRESS <ENTER> TO CONTINUE" :INPUT X$:P=0:CLS:PRINT "THE
RESPONSES WERE":PRINT:PRINT "CALL","YES";" NO";" TRAFFIC":PRINT "-----"

```



```

-----"
1010 PRINT R$(X),"";A(X,1);" ";A(X,2);" ";A(X,3)
1020 LPRINT R$(X),"";A(X,1);"";A(X,2);" ";A(X,3)
1030 PRINT
1040 NEXT X
1050 PRINT "ANYONE ELSE WISH TO CHECK IN ?<PRESS(=)TO EXIT>"
1060 LPRINT CHR$(10)
1070 LPRINT CHR$(15);CHR$(14);"LATE,LATE CHECK IN'S";CHR$(20)
1080 LPRINT CHR$(18)
1090 FOR U=1 TO 20
1100 INPUT UU$
1110 IF UU$="=" THEN 1140
1115 COUNT=COUNT+1
1120 LPRINT UU$
1130 NEXT U
1140 CLS
1150 PRINT "*****"
*****"
1160 PRINT "*****"
*****"
1170 PRINT "***** GRANT COUNTY VHF NET *****"
*****"
1180 PRINT "*****"
*****"
1190 PRINT "*****"
*****"
1200 PRINT
1210 PRINT
1220 PRINT "TONIGHT, ";DD$;" WE HAD ";COUNT;" CHECK IN'S"
1230 PRINT
1240 LPRINT "TONIGHT, ";DD$;" WE HAD ";COUNT;" CHECK IN'S"
1250 CLOSE
1260 PRINT "THANK YOU FOR CHECKING IN TO THE GRANT COUNTY VHF NET THIS EVENING"
1270 PRINT
1280 PRINT "THIS IS ";PP$;" RETURNING THE REPEATER TO NORMAL AMATEUR USE"
1290 PRINT
1300 PRINT "ENTER FILE NAME";" <DA(M,D,Y) DA112384>"
1310 INPUT Q$
1320 PRINT
1330 PRINT "SAVING ALL OF TODAYS DATA TO DISK"
1340 OPEN "O",1,Q$
1350 FOR V=1 TO I-1
1360 IF R$(V)="" THEN 1380
1370 PRINT #1,R$(V)
1380 NEXT V
1390 CLOSE
1400 CLS
1410 LOCATE 12,35
1420 PRINT "THANK YOU"
1430 END

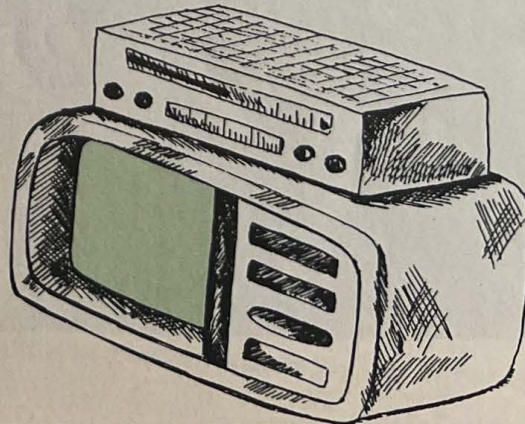
```

Listing 2: Data file for ROLLCALL.BAS

```

5 REM PROGRAM TO START DATA FILE FOR ROLLCALL
10 DIM R$(50)
20 FOR I=1 TO 50
30 READ R$(I)
40 IF R$(I)="END" THEN 60
50 NEXT I
60 PRINT "DONE"
70 OPEN "O",1,"DATA"
80 FOR T=1 TO I-1
90 PRINT R$(T)
100 NEXT T
110 CLOSE
120 DATA WB9YHF BEECHER, N9DKB BAVE, N9ETM PURDLE, END

```



The PC

If you plan to deduct depreciation on your computer from your income taxes, you will need a usage log to justify it. When the tax-man cometh, be ready for him

By Michael Dunne

Are you deducting depreciation on your Sanyo from your income for tax purposes? If the IRS audits you, will you have sufficient evidence to substantiate your deduction? Is maintaining a manual log too bothersome? Do you sometimes forget to make an entry into your log?

If you are taking a deduction for your Sanyo and are not satisfied with whatever arrangements you've made to fulfill the IRS requirement for a personal computer log, you may benefit from LOG.BAT, LOGTRANS, and an automatic log function driven by an AUTOEXEC.BAT file.

To meet the new log requirement, I created a simple but effective log system. This system is easy to put on any MS-DOS PC and it keeps computer-usage tax records with style and ease.

The system consists of five components:

1. The code used in an AUTOEXEC.BAT file on the primary DOS disk to remind the user of the log requirement and chain to the LOG.BAT file.
2. The code for an AUTOEXEC.BAT file on all other bootable disks to force the loading of the primary DOS disk for logging purposes. (The LOG file resides on this disk.)
3. LOG.BAT, the actual log program that accepts input and creates the LOG file.
4. LOGTRANS, a BASIC program to compress the LOG file data into a compact version for archiving, calculating/recording business and personal hour totals, and generating a neat, concise hard copy log for your tax records. The hard copy displays the date and time signed on/off, hours spent, category (business or personal) and a description of each logged activity, as well as a summary total of business and personal hours spent during the period.
5. The files themselves:
 - LOG — The current log
 - LOGGER — A temporary work file
 - LOGJAN86 — Original log for January '86
 - LOGJAN86.LOG — Compressed archive log for January '86
 - LOGFEB86 — Original log for February '86
 - LOGFEB86.LOG — Compressed archive log for February '86
 - ETC., ETC. — and so on.

Michael Dunne is currently the manager of EDP Systems and Programs for the AAR Allen Aircraft Corporation. He has been in the data processing field since 1980 and has worked with various versions of BASIC, RPG, COBOL and fourth generation languages on micros, minis and small mainframes. He may be contacted at 7064 Chestnut St., Hanover Park, IL 60103; (312) 830-8546.

Usage Log

Sanyo BASIC and GW-BASIC

General Description

The AUTOEXEC.BAT file reminds the user to log on, asks for the date, modifies the prompt to display the time and chains to the LOG.BAT file. LOG.BAT asks for the time, requests input of "on" or "off," "bus" or "per" and a description of the activity. LOG.BAT then appends the log information to the file LOG. Note: If the disk booted is not the primary system disk, the AUTOEXEC.BAT file loops on a request to mount that disk until the disk is mounted or the user breaks the AUTOEXEC.BAT file). The sign-on must be in the format [ON — XXX — AAAAAAAAAAAAAAAAAAAAAAAAAAAAAA] with XXX limited to "bus" for business and "per" for personal. The AAAAA. . . A area is a free-form description.

The method used in the LOG.BAT file to accept the data from the user is COPY CON. Use of COPY CON requires a CONTROL-Z to indicate end of input (PF6 can also be used). This will seem awkward at first but, with time, will become second nature. COPY CON was the only way I could find to gather text input without having to resort to writing an assembler or BASIC program. The time saved not having to go into BASIC just to log on justifies the approach.

Directing the output of the TIME and DATE DOS internal commands to the log file is the easiest method to record the time and date. However, there is the problem of having to press ENTER at the prompts "Enter new date:" or "Enter new time:." This problem is solved by directing a file containing a carriage return to the DATE/TIME commands. For example, the command used for date output to the log file calls the DATE command, sends (appends >>) the screen output to the work file LOGGER and sends a carriage return character (CHAR.CR) to the DATE command (DATE < CHAR.CR >> LOGGER).

Originally, LOG.BAT appended the data directly to the LOG file. This worked fine until after the first time I used EDLIN to correct a mistake in the LOG file. The append (>>) seemed to work some of the time, but not all of the time.

In an attempt to solve that problem, I appended logging output to a file LOGGER, and then appended LOGGER to LOG. This also only worked some of the time. Rather than investigate the reasons for this intermittent failure, I copied LOG and LOGGER to LOG. This works all the time. Hence, COPY A:LOG + A:LOGGER A:LOG is used to update LOG as opposed to A:LOGGER >> LOG.

The period I've established is a month. Therefore, at the beginning of each month, I rename LOG to LOGmmmyy (mmm being the month, yy the year). To archive the LOGmmmyy file, I run the BASIC program LOGTRANS, creating a file LOGmmmyy.LOG and printing my hard copy log. Once I'm sure the log and hard copy are good, I delete LOGmmmyy and store the LOGmmmyy.LOG. File maintenance to correct errors in any of the log files can be done using EDLIN.

The "ON/OFF" line is the output of a COPY CON command in the LOG.BAT. The "Current date/Current time" lines are the output of a DATE and TIME command, respectively.

```
ON — BUS — B1900 Capacity Planning
Current date is Sat 7-20-1986
Current time is 20:02:45.30
OFF — BUS
Current date is Sat 7-20-1986
Current time is 22:54:24.75
ON — BUS — DPSR Report Programming
Current date is Thu 7-25-1986
Current time is 19:01:01.20
OFF — BUS
Current date is Fri 7-26-1986
Current time is 0:20:26.30
ON — PER — Letter Home
Current date is Fri 7-26-1986
Current time is 20:00:39.30
OFF — PER
Current date is Fri 7-26-1986
Current time is 21:23:57.15
ON — BUS — DPSR Report Programming
Current date is Sun 7-28-1986
Current time is 15:45:21.70
OFF — BUS
Current date is Sun 7-28-1986
Current time is 18:04:07.00
```

Figure 1: Example of original LOG file

This is the disk file output produced by LOGTRANS.BAS. It is also the form of the hard copy log. However, the hard copy has a blank line between each activity entry and a heading.

"Personal/Map Graphic of House"

```
"ON Tue 5-14-1986/22:31"
"OFF Tue 5-14-1986/23:54 =Hours= 1.4"
"Business/AAH System Conversion Requirements"
"ON Wed 5-15-1986/20:00"
"OFF Thu 5-16-1986/1:03 =Hours= 5"
"Personal/Graphics/EDU Programs"
"ON Mon 5-20-1986/20:36"
"OFF Mon 5-20-1986/21:23 =Hours= .8"
"Personal/Software Patches"
```

Figure 2: Example of compressed log for archiving

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"OFF Tue	5-21-1986/7:45	=Hours=	1.5"
"Business/Sales Meeting Graphics"			
"ON Sat	5-25-1986/0:45"		
"OFF Sat	5-25-1986/3:43	=Hours=	3"
"Business/Sales Meeting Graphics"			
"ON Sun	5-26-1986/9:00"		
"OFF Sun	5-26-1986/10:23	=Hours=	1.4"
"Personal/Basic Programming — Typing Tutor"			
"ON Wed	5-29-1986/22:10"		
"OFF Thu	5-30-1986/0:31	=Hours=	2.4"
"Personal/Job Brief"			
"ON Thu	5-30-1986/21:45"		
"OFF Thu	5-30-1986/23:04	=Hours=	1.3"
" "			
"Totals	Business	Personal"	
"	9.4	7.4 "	

Listing 1: AUTOEXEC.BAT

```

ECHO OFF
CLS
PROMPT $t$1$N$g
ECHO
ECHO =====
ECHO =====
ECHO ===== PLEASE LOG ON/OFF FOR =====
ECHO ===== BUSINESS OR PERSONAL USE =====
ECHO =====
DATE
ECHO
ECHO =====
LOG.BAT

```

Listing 2: LOG.BAT

```

ECHO OFF

TIME
ECHO =====
ECHO LAST LOG ENTRY:
IF EXIST A:LOGGER TYPE A:LOGGER
ECHO =====
ECHO ENTER: ON/OFF - BUS/PER - DESCRIBE ACTIVITY (CR)
ECHO THEN: ^Z (CR)
ECHO
COPY CON A:LOGGER
DATE < CHAR.CR >> LOGGER
TIME < CHAR.CR >> LOGGER
ECHO
COPY A:LOG + A:LOGGER A:LOG
PAUSE
CLS

```

Listing 3: AUTOEXEC.BAT

```

PROMPT $t$1$N$g
ECHO OFF
ECHO PLEASE MOUNT PRIMARY SYSTEM DISKETTE ON A:
PAUSE
AUTOEXEC

```


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Listing 4: LOGTRANS.BAS

```

10 ' ***** LOGTRANS.BAS *****
15 GOTO 100
20 SAVE "LOGTRANS":STOP :''(to save, just RUN 20)
30 '=====
35 '= LOGTRANS converts files created by LOG.BAT (format LOGmmmyy) =
40 '= into files for archiving (format LOGmmmyy.LOG) on computers =
45 '= against which business depreciation deductions are claimed. =
50 '= This program also has a hardcopy (print) option. =
55 '= Author: Michael Dunne - Hanover Park, IL. =
60 '=====
100 CLS:THELINE=4:THEBOX=24 : 'SCREEN SET-UP
120 ON ERROR GOTO 9000 : 'DIRECT ALL ERRORS TO STANDARD ERROR ROUTINE
140 LINE(10,0)-(629,20),3,B
160 LOCATE 2,35:PRINT "LOG UTILITY"
200 CLOSE : 'INITIAL RE-ENTRY POINT FOR RETURN FROM ERROR ROUTINE
210 REENTRY=1:LOCATE 4,1:FILES "LOG????.*":PRINT: : 'DISPLAY LOGS ON FILE
220 THELINE=CSRLIN:THEBOX=(THELINE-1)*8 : 'ESTABLISH FUNCTION BOX POSITION
230 REENTRY = 2 :REM REENTRY SET TO 2 AT 9500 : 'RE-ENTRY POINT THIS MODULE
239 ' ' ' DRAW BOX AND DISPLAY OPTIONS
240 LINE(10,THEBOX)-(629,THEBOX+65),3,BF:LINE(30,THEBOX+10)-(609,THEBOX+55),0,BF
260 LOCATE THELINE+2,27:PRINT "TRANSLATE & COMPRESS <T>"
280 LOCATE THELINE+3,27:PRINT "PRINT COMPRESSED LOG <P>"
300 LOCATE THELINE+4,27:PRINT "END & RETURN TO BASIC <E>"
320 LOCATE THELINE+5,27:PRINT "ENTER OPTION..<T/P/E>..< >";CHR$(8);CHR$(8);
340 GOSUB 4000:OPT$=A$ : 'GET OPTION
360 ON INSTR("TP",OPT$) GOSUB 4500,4500 : 'GET FILE NAME - TEST FOR EXISTENCE
380 ON 1+INSTR("TPE",OPT$) GOTO 320,1000,3000,5500 : 'VALIDATE OPTION
1000 ' TRANSLATE & COMPRESS OPTION
1020 LINE INPUT #1,D$: 'TEST FILE TYPE
1040 LINE INPUT #1,D$: IF LEFT$(D$,12)="Current date" THEN 1080
1060 REENTRY=0 :DESC$="FILE NOT AN ORIGINAL LOG FILE":GOTO 9030
1080 NEWFILE$=FILE$+".LOG":LOCATE THELINE+2,31:PRINT "WILL CREATE A NEW LOG FILE
- ";NEWFILE$;
1100 LINE(226,THEBOX+10)-(466,THEBOX+26),3,B:LINE(466,THEBOX+10)-(586,THEBOX+26)
,3,B
1120 LOCATE THELINE+4,30:PRINT "CONTINUE? [Y/N]:< >";CHR$(8);CHR$(8);
1140 GOSUB 4000
1160 ON 1+INSTR("YyNn",A$) GOTO 1120,1180,1180,200,200
1180 LOCATE THELINE+4,30:PRINT "CONVERTING TO NEW LOG";
1200 OPEN "O",#2,NEWFILE$
1220 CLOSE #1:OPEN "I",1,FILE$
1240 FOR X = 0 TO 5
1260 IF EOF(1) THEN 1980
1280 LINE INPUT #1,D$
1300 IF LEN(D$)=0 THEN GOTO 1260 : 'ELIMINATE BLANK LINES
1320 GOSUB 1400 : 'WORK
1340 NEXT X
1360 GOTO 1240
1380 'DETERMINE LINE TYPE - SET UP NEW FILE LINE - DO MATH
1394 'X = 0 RECORD IS 'ON'
1395 'X = 1 RECORD IS DATE 'ON'
1396 'X = 2 RECORD IS TIME 'ON'
1397 'X = 3 RECORD IS 'OFF'
1398 'X = 4 RECORD IS DATE 'OFF'
1399 'X = 5 RECORD IS TIME 'OFF'
1400 ON X GOTO 1600,1680,1560,1640,1780
1420 IF INSTR(D$,"ON")=0 THEN GOTO 2100 : 'ERROR IN FILE, FIRST LINE S/B 'ON'
1440 TYPE = 0 : USE$="PERSONAL" : 'USE(0) = PERSONAL
1460 IF INSTR(D$,"BUS") = 0 THEN GOTO 1520
1480 TYPE = 1 : USE$="BUSINESS" : 'USE(1) = BUSINESS
1520 ACT$=USE$+"/" +MID$(D$,11,LEN(D$)) : 'SET UP ACTIVITY FOR WRITE TO NEWFILE
1540 GOTO 1960
1560 IF INSTR(D$,"OFF")=0 THEN GOTO 2100 : 'ERROR IN FILE, THIS LINE S/B 'OFF'
1580 GOTO 1960
1600 LOGON$="ON " +MID$(D$,17,LEN(D$)) : 'DATE ON FOR WRITE

```


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```

1620 GOTO 1960
1640 LOGOFF$="OFF "+MID$(D$,17,LEN(D$)) : 'DATE OFF FOR WRITE
1660 GOTO 1960
1680 ' TIME SIGNED ON
1700 LOGON$=LOGON$+" "+MID$(D$,17,5)
1720 HOUON!=VAL(MID$(D$,17,2))
1740 HOUON! = HOUON! + VAL(MID$(D$,20,2))/60
1760 GOTO 1960
1780 ' TIME SIGNED OFF
1800 LOGOFF$=LOGOFF$+" "+MID$(D$,17,5)
1820 HOUOFF!=VAL(MID$(D$,17,2))
1840 HOUOFF! = HOUOFF! + VAL(MID$(D$,20,2))/60
1860 IF HOUOFF! < HOUON! THEN HOUOFF!=HOUOFF! + 24 : 'WORKED ALL NIGHT
1880 HOURS!=INT((HOUOFF!-HOUON!)*10+.5)/10
1900 LOGOFF$=LOGOFF$+" =HOURS=" +STR$(HOURS!)
1920 USE(TYPE)=USE(TYPE)+HOURS!
1940 WRITE#2,ACT$:WRITE#2,LOGON$:WRITE#2,LOGOFF$
1960 RETURN
1980 WRITE#2," "
2000 WRITE#2,"TOTALS BUSINESS PERSONAL"
2020 A$=STRING$(28,32)
2040 MID$(A$,12,4)=STR$(USE(1)):MID$(A$,23,4)=STR$(USE(0))
2060 WRITE#2,A$
2080 REENTRY=0 :DESC$="FILE HAS BEEN CONVERTED " :GOTO 9030
2100 REENTRY=0 :DESC$="ERROR IN ORIGINAL LOG FILE " :GOTO 9030
3000 ' PRINT COMPRESSED FILE
3020 LINE INPUT #1,D$: 'TEST FILE TYPE
3040 LINE INPUT #1,D$: 'BASED ON SECOND RECORD
3060 IF MID$(D$,2,3)<>"ON " THEN REENTRY=0 :DESC$="FILE NOT A COMPRESSED LOG FIL
E":GOTO 9030
3080 LOCATE THELINE+2,31:PRINT "PRINT LOG FILE - ";FILE$;
3100 LINE(226,THEBOX+10)-(586,THEBOX+26),3,B
3120 LOCATE THELINE+4,30:PRINT "CONTINUE? [Y/N]:<>";CHR$(8);CHR$(8);
3140 GOSUB 4000
3160 ON 1+INSTR("YyNn",A$) GOTO 3120,3170,3170,200,200
3170 REENTRY=3 :DESC$="READY PRINTER" :GOTO 9030
3180 LOCATE THELINE+4,30:PRINT " P R I N T I N G ";
3190 OPEN "O",2,"PRN":LINES=99:PAGES=0
3220 CLOSE #1:OPEN "I",1,FILE$
3240 FOR X = 0 TO 2
3260 IF EOF(1) THEN 3700
3280 LINE INPUT #1,D$
3320 GOSUB 3380 : 'PRINT
3340 NEXT X
3350 PRINT#2," ":LINES=LINES+1
3360 GOTO 3240
3380 LINES=LINES+1:IF LINES>56 THEN GOSUB 3600
3390 PRINT#2,D$:RETURN
3600 ' HEADINGS
3610 PRINT#2,CHR$(12)
3620 LINES=0:PAGES=PAGES+1
3630 PRINT#2,CHR$(13):PRINT#2,"***** ";FILE$;" *****";TAB(60);"PAGE ";PAGES
3640 PRINT#2,CHR$(13):LINES=LINES+3:RETURN
3700 CLOSE #2
3710 REENTRY=0 :DESC$="LOG HAS BEEN PRINTED" :GOTO 9030
3730 GOTO 1000
4000 A$=INKEY$:IF A$="" THEN 4000 ELSE RETURN
4500 LINE(50,THEBOX+10)-(609,THEBOX+55),0,BF
4520 LINE(60,THEBOX+10)-(226,THEBOX+26),3,B
4540 LOCATE THELINE+2,9:PRINT "FILE";:INPUT(14)FILE$
4560 OPEN "I",1,FILE$:'TEST FOR EXISTANCE
4580 RETURN
5500 CLOSE : END
9000 RESUME 9010: ' ERROR ROUTINE
9010 READ NUMBER,DESC$ :IF NUMBER=ERR OR NUMBER=0 THEN RESTORE :GOTO 9030
9020 GOTO 9010

```



```

9030 LOCATE 24,1:PRINT DESC$;" ";ERR;"/";ERL;"!!!! ANY KEY TO CONT.";
9040 GOSUB 4000 :LOCATE 24,1:PRINT SPC(79);
9050 ON REENTRY GOTO 9090,240,3180
9060 GOTO 200
9090 REENTRY=2 :DESC$="NO LOG FILES IN THIS DIRECTORY":GOTO 9030
9100 REM ===== ERROR DATA =====
9104 DATA 4,"OUT OF DATA"
9105 DATA 5,"ILLEGAL FUNCTION CALL"
9119 DATA 19,"NO 'RESUME'"
9120 DATA 20,"RESUME W/O ERROR"
9121 DATA 21,"UNPRINTABLE ERROR"
9122 DATA 22,"MISSING OPERAND"
9123 DATA 23,"LINE BUFFER OVERFLOW"
9125 DATA 25,"PRINT FIELD OVERFLOW"
9127 DATA 27,"PRINTER OUT OF PAPER"
9150 DATA 50,"FILE FIELD OVERFLOW"
9151 DATA 51,"PORT I/O ERROR"
9152 DATA 52,"BAD FILE NUMBER"
9153 DATA 53,"FILE NOT FOUND"
9154 DATA 54,"BAD FILE MODE"
9155 DATA 55,"FILE ALREADY OPEN"
9156 DATA 56,"BAD FILE DATA"
9157 DATA 57,"DISK I/O ERROR"
9158 DATA 58,"FILE ALREADY EXISTS"
9159 DATA 59,"DISK NOT READY"
9161 DATA 61,"DISK FULL"
9162 DATA 62,"INPUT PAST END"
9164 DATA 64,"BAD FILENAME"
9167 DATA 67,"TOO MANY FILES"
9168 DATA 68,"FILE WRITE PROTECTED"
9199 DATA 0,"ERROR IS: "

```



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This program is intended for students in middle or high school in their first year of German. Its primary use is helping with vocabulary retention as an extension to regular classroom instructions.

The drill consists of 50 relatively simple words usually encountered by students in their first few months of instruction. However, the user instructions are fairly complex and might not be suitable for younger students. If the drill is used by students who are learning a foreign language in elementary school, the instructor would be required to explain the use of this drill.

This is strictly a drill. There is no feedback, other than advising the student that a word was translated incorrectly and by displaying the correct word. Unfortunately, learning a foreign language requires memorization of vocabulary. The computer, with its element of making a game of the learning process, can certainly be a very useful tool to surmount the drudgery of foreign language learning.

Description and User Instruction

This program makes vocabulary learning fun! Yes, I know this statement is provocative, but after trying the drill, students may agree.

Once the program is typed in, saved and run, the title of the program appears on the screen. Two lines below the title, on the right-hand side, the computer displays "Score — 0." The computer welcomes the player to the drill by displaying "Welcome to the English-German Translation Drill" on one line, and on another line, "Please Enter Your First Name." (Actually, the computer is not at all fussy; it also accepts the complete name and names of just about any length. When this program was tested, it accepted all variations and used even extremely long names during the program).

Once the student enters his name, the screen is cleared and the first set of program instructions appear. The time needed to read the instructions is under the user's control. At the bottom of the screen, always in the same position from screen picture to screen picture, the user will see "Press Space Bar to Continue." Only after the space bar has been pressed, does the computer move on to the next line of instructions.

When the student has finished reading the instructions, the screen is cleared and the first 10 words appear. The words are

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English-German Translation Drill

By Charles & Holle Schneider

German

ENGLISH

ENGLISH

DEUTSCH

not alphabetized, but appear in the order as listed in the data statements from lines 10000 to 10190. The first 50 words are English words, the next 50 words their German equivalent. Because gender of nouns is so important in German grammar, all nouns must be studied with their correct article and, during the actual drill, must be translated with their article.

Since timing is under the student's control, he can take as much or as little time as needed to memorize the list. When ready, he presses the space bar and the screen displays the next set of words until all 50 words have appeared.

Next, the screen displays further instructions on how the test will be administered and how responses should be typed.

With preliminary instructions out of the way and the words (hopefully) memorized, the actual drill begins.

The screen displays "Name, Please Wait Until Test is Set Up." This is helpful since students may be wondering why the drill does not start immediately after they have pressed the space bar. However, the computer needs time to scramble the words it recently displayed. When the

point behind the word of praise, followed by the student's name.

If the word is not translated correctly on the first try, the screen displays "Try Again N?" The student enters the German word again and this time, if it is correct, the screen displays "This Time You are Correct," leaves the display on for a second and goes on to the next word.

If the student fails to translate the word correctly once again, the computer displays "Wrong Again," and the correct word is displayed.

During the drill, the score is kept as well as the number of words worked on and number of words translated correctly. The drill continues until all 50 words have been displayed and translated.

After the last word has been entered, the computer displays the last score. It then displays two more lines, "Total Correct Words are," and "Final Score is" so the student will know how he did. At the same time, another line appears on the left-hand side of the screen, "Do You Wish Another Drill? (Enter Y or N)."

If the student wants to try again, he types Y to continue or N if his score is high enough for him to stop.

computer is ready, the first word to be translated appears on the screen, and two lines below the word is the instruction: "Type in the German Word For the Above and Press Enter."

The computer now displays, on the right-hand side of the screen, "Word Number is —," and "Words Correct are —."

These two counters change with every new word displayed and every word translated. These counters make it easy for the student to know exactly where he stands as far as overall words translated, as well as words translated correctly. The score counter also becomes active, displaying the current score with every new word translated (3 points per word translated on first try, 2 points on second try, 0 points if not translated).

The student types in the German word (with the article if the word is a noun) and presses ENTER. Should he accidentally press the space bar, nothing happens; he must press ENTER. However, the word will be counted as incorrect because of the extra space typed in. Since the computer cannot distinguish between a typographical error and a translation error, great care should be taken and the ENTER key should not be pressed until the student has verified his entry.

If the word is correctly translated, the computer picks one of 10 random words of praise, five of them English, five of them German, which adds an element of fun to the drill. There is an exclamation

If he enters Y, the drill starts over with the last drill erased from the computer's memory with the command on Line 300. This prevents any data conflict between the first and the second game.

On each try, the words to be translated appear in a different order, thus preventing the student from learning the vocabulary by order.

The student can continue the drill until he gets a satisfactory score or until he gets tired of the drill.

Modifications

This program can be modified in various ways. Although it is meant as a model, since 50 words are of rather limited value, the words can be changed easily by changing the data lines. The program can, therefore, be used to reinforce vocabulary appearing in each segment of the student's workbook. Since this drill is intended for older students, presumably sophisticated in their use of computers, students can change the data lines themselves as they progress to keep up with their changing needs.

By the same token, the program could be used for other languages as well, as long as the computer's keyboard has the capability of displaying the various accent marks found in other languages. In this respect, German is relatively easy because it is acceptable to type ue, oe, and ae instead of the dots over the vowels where an umlaut is needed, and the Sharp S is already disappearing, since even in Germany computers do not have this letter on

the keyboard and the Sharp S is spelled SS.

A disk has a rather large storage capacity. The data could, conceivably, be listed in several batches of 50 words each. As the student successfully works his way through the first batch, he could then go to the second and so on. Students who do not achieve a high score could be prevented from going on until they have mastered the first part of the program.

As far as the score is concerned, several changes are possible. One would be to not show the score counter until after the actual drill has started (it would appear at the time the word count appears). It might make the program more interesting if the computer not only displayed the score at the end of the completed drill, but the grade as well. As it stands now, the user either has to remember what the score means in terms of grade, or has to look it up in the onscreen instructions. If desired, the student's score could also be put into memory for the instructor's review.

Once the grade or score is given at the end of the program, there could also be a positive reinforcement comment for students with a high score. For students with low scores, the computer could display the advice that the student may consider reviewing the vocabulary again to do better next time.

As far as actual translation is concerned, the computer could be programmed with a time delay for the word displayed and after the time delay is up, unless the student has entered the word, the word would be counted as incorrect by default.

Some students may get impatient with all the computer prompts such as praise, etc., and may want to skip over that portion. However, this program displays the praise so briefly, it is not much of a delay or detriment. It may even be useful to increase the time delay for the display of the incorrectly translated word. Other students may be intrigued by the computer's random praise and may want to see it enhanced by graphics or sound. But if sound is used, there should be a way to turn it off, as it may be offensive to some.

Another delay in the drill is that the instructions are always displayed, regardless of whether this is the student's first or second time through the drill. Once a student has read the instructions, he should remember them. Instead of repeating them all over again, the instructions could be skipped, but not the list of words to be studied, since it is assumed that the student is repeating the drill because he got too many words wrong.

If the list of words to be studied is not given at all at the beginning of the drill, the drill could also be changed to multiple choice. If the program is changed to a multiple choice type program, then the words used would have to come from

material the students are learning during regular classroom instructions and not new vocabulary that they will not pick up anywhere else. I do believe that in learning languages, multiple choice type answers have limited value, as the drill would then

turn more into a guessing game than in testing true knowledge.

There is an infinite variety of things interested instructors can do with this program, but even if not modified at all, the program is useful as it stands now.

The listing: GERMAN.BAS

```

10 ' ENGLISH-GERMAN TRANSLATION DRILL
12 ' * * * * *
15 ' HOLLE E. SCHNEIDER
16 ' CHARLES E. SCHNEIDER
17 ' 325 EUTEW FOREST DRIVE
20 ' WALDORF, MD 20601
25 ' * * * * *
30 ' EXPLANATION OF VARIABLES
35 ' A$=ENGLISH DATA
40 ' B$=GERMAN DATA
45 ' C$=ENGLISH DATA DISPLAYED FOR TRANSLATION
50 ' D$=GERMAN DATA DISPLAYED FOR TRANSLATION
52 ' F$=DRILL, Y-N
55 ' L$=USERS NAME
58 ' M$=GERMAN WORD INPUT BY USER
60 ' NM$=PRAISE
61 ' SP$=SPACE BAR COMMAND
62 ' B=GROUPS OF 10 BILINGUAL WORD SETS DISPLAYED
65 ' C=COUNT
68 ' S=SCORE
70 ' T=TRY (FOR GERMAN WORD)
73 ' TM=TIME DELAY
75 ' U=KEEPS TRACK OF 50 RANDOM WORDS CALLED UP
78 ' W=WORD COUNT
80 ' X=RANDOM NUMBER
83 ' Z=COUNT FOR READING DATA
90 ' * * * * *
100 CLS
105 DIM A$(51),B$(51),Z(51),C$(51),D$(51)
110 GOSUB 1500:GOSUB 1000
115 GOSUB 1030:REM INSTRUCTIONS
120 GOSUB 2000:GOSUB 1000:REM SPACE BAR
130 GOSUB 2045:REM READ DATA
140 GOSUB 2120:REM DATA
150 GOSUB 1100:REM INSTRUCTIONS CONTINUE
160 GOSUB 2000:GOSUB 1000
170 GOSUB 1170:REM SCORING
180 GOSUB 2000:GOSUB 1000
190 GOSUB 1210:REM SCORE
200 GOSUB 2000:GOSUB 1000
210 GOSUB 1300:REM PLAY AGAIN
220 GOSUB 2000:GOSUB 1000
230 PRINT TAB(5)L$;" , PLEASE WAIT UNTIL TEST IS SET UP"
240 GOSUB 1330:C=0
250 C=C+1:GOSUB 1000:IF C>50 THEN GOTO 280
255 PRINT TAB(40)"WORDS CORRECT ARE - ";W;"
260 GOSUB 1430
270 GOTO 250
280 PRINT TAB(40)"TOTAL CORRECT WORDS ARE - ";W;"
281 PRINT TAB(40)"FINAL SCORE IS - ";S;"
282 LOCATE 20,2:PRINT " DO YOU WISH ANOTHER DRILL (ENTER Y OR N)"
285 INPUT F$
290 IF F$="N" THEN GOTO 310
300 IF F$="Y" THEN CLEAR:GOTO 100
310 END
1000 LOCATE 5,1:REM UNDERLINED HEADING SUBROUTINE
1001 CLS:PRINT TAB(15)"ENGLISH-GERMAN TRANSLATION DRILL"
1010 PRINT TAB(14)STRING$(34,"*")
1015 PRINT TAB(50)"SCORE - ";S;"
1016 PRINT TAB(50)STRING$(12,"-")

```



```

1020 PRINT :PRINT
1025 RETURN
1030 PRINT " THIS IS A BASIC ENGLISH-GERMAN TRANSLATION DRILL"
1040 PRINT:PRINT
1050 PRINT " YOU WILL LEARN 50 SIMPLE WORDS" :PRINT
1060 PRINT " YOU WILL SEE THE WORDS IN BATCHES OF 10" :PRINT
1080 PRINT " MEMORIZE EACH LIST, INCLUDING ARTICLES" :PRINT
1095 RETURN
1100 PRINT " NOW YOU ARE READY TO TEST WHAT YOU HAVE LEARNED" :PRINT
1120 PRINT " ALL 50 WORDS WILL APPEAR ON THE SCREEN IN RANDOM ORDER"
1121 PRINT " FOR YOU TO TRANSLATE" :PRINT
1140 PRINT " AFTER YOU HAVE SEEN THE ENGLISH WORD, TYPE IN THE CORRESPONDING"
1141 PRINT " GERMAN WORD YOU HAVE JUST STUDIED AND PRESS RETURN" :PRINT
1150 PRINT " ON ALL PROPER NOUNS, THE ARTICLE MUST BE GIVEN WITH THE "
1151 PRINT " TRANSLATED WORD JUST AS YOU LEARNED IT IN THE FIRST PART"
1152 PRINT " OF THIS DRILL" :PRINT
1160 PRINT " IF NECESSARY, YOU WILL BE GIVEN TWO TRIES PER WORD" :PRINT
1167 RETURN
1170 PRINT " EACH WORD TRANSLATED CORRECTLY ON THE FIRST TRY WILL COUNT FOR"
1171 PRINT " 3 POINTS" :PRINT
1180 PRINT " EACH WORD TRANSLATED CORRECTLY ON THE SECOND TRY WILL COUNT FOR"
1181 PRINT " 2 POINTS" :PRINT
1190 PRINT " ANY WORD NOT TRANSLATED CORRECTLY AFTER THE SECOND TRY WILL BE"
1191 PRINT " DISPLAYED ON THE SCREEN FOR YOU FOR REVIEW. IT WILL CARRY 0 POINTS
1192 PRINT
1200 PRINT " PLEASE NOTE 'UMLAUTS' ARE WRITTEN AE, OE, UE"
1201 PRINT " SHARP S IS SPELLED SS" :PRINT
1203 PRINT " PLEASE BE SURE TO TYPE IN YOUR RESPONSES IN CAPS ONLY" :PRINT
1205 RETURN
1210 PRINT " AFTER YOU HAVE WORKED YOUR WAY THROUGH ALL 50 WORDS, THE COMPUTER"
1211 PRINT " WILL TELL YOU HOW MANY WORDS YOU HAVE TRANSLATED CORRECTLY":PRINT
1230 PRINT " YOUR GRADE IS ACCORDING TO YOUR CUMULATED POINT SCORE"
1231 PRINT " THE HIGHEST SCORE YOU CAN ACHIEVE IS 150" :PRINT
1240 PRINT TAB(14)"A - 136 TO 150 POINTS"
1250 PRINT TAB(14)"B - 121 TO 135 POINTS"
1260 PRINT TAB(14)"C - 101 TO 120 POINTS"
1270 PRINT TAB(14)"D - 81 TO 100 POINTS"
1280 PRINT TAB(14)"F - UNDER 80 POINTS" :PRINT
1290 RETURN
1300 PRINT " YOU WILL BE GIVEN THE OPTION TO CONTINUE THE GAME." :PRINT
1310 PRINT " WHEN THE COMPUTER ASKS YOU TO PLAY ANOTHER GAME, YES OR NO,"
1311 PRINT " TYPE IN YOUR ANSWER - Y OR N" :PRINT
1320 RETURN
1330 FOR C=1 TO 50 : REM SET UP WORD COUNT AND RANDOMIZATION
1340 Z(C)=C
1350 NEXT C
1360 C=0
1370 X=INT(RND(1)*50+1)
1390 IF Z(X)=0 THEN 1370
1400 U=U+1:C$(U)=A$(X):D$(U)=B$(X):IF U=50 THEN 1420
1410 Z(X)=0:GOTO 1370
1420 RETURN
1430 PRINT TAB(24)C$(C) : REM USER INPUT
1435 LOCATE 10,3
1436 T=0:PRINT " TYPE IN THE GERMAN WORD FOR THE ABOVE AND PRESS 'ENTER'":PRINT
1437 LOCATE 6,40:PRINT "WORD NUMBER IS - - ";C;"
1440 LOCATE 13,3:INPUT M$
1449 IF M$=D$(C) THEN W=W+1
1450 IF M$=D$(C) THEN GOSUB 1525
1452 IF M$<>D$(C) THEN GOTO 1464
1455 IF M$=D$(C) THEN GOTO 1600
1460 T=T+1:IF T=2 THEN GOTO 2190
1462 IF T=2 THEN GOTO 1480
1464 LOCATE 16,3:PRINT " TRY AGAIN ";L$;"
1465 LOCATE 19,3:INPUT M$
1468 IF M$=D$(C) THEN W=W+1
1469 IF M$<>D$(C) THEN GOTO 2190
1470 PRINT:IF M$=D$(C) THEN PRINT " THIS TIME YOU ARE CORRECT" :PRINT
1471 S=S+2

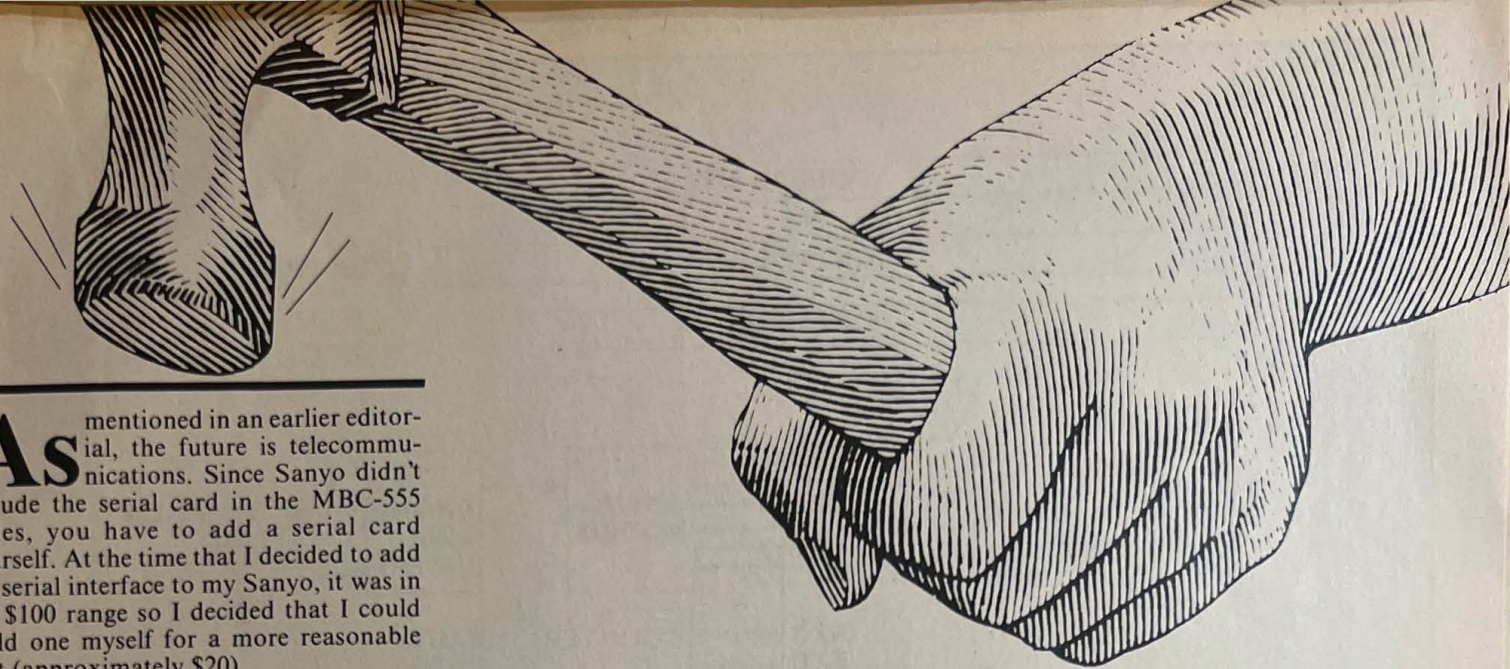
```



```

1472 FOR TM=1 TO 1000
1473 NEXT TM
1480 RETURN
1500 GOSUB 1000:PRINT"      WELCOME TO THE ENGLISH-GERMAN TRANSLATION DRILL"
1510 LOCATE 10,4:PRINT "PLEASE ENTER YOUR FIRST NAME":INPUT L$
1520 RETURN
1525 S=S+3:IF T=1 THEN S=S-1 : REM SCORING
1530 X=INT(RND(1)*10+1)
1535 ON X GOSUB 1540,1545,1550,1555,1560,1565,1570,1575,1580,1585
1537 RETURN
1539 '   RANDOM PRAISE
1540 NM$="VERY GOOD! ":LOCATE 20,4:PRINT NM$;" ";L$;" ":RETURN
1545 NM$="TERRIFIC! ":LOCATE 20,4:PRINT NM$;" ";L$;" ":RETURN
1550 NM$="GREAT! ":LOCATE 20,4:PRINT NM$;" ";L$;" ":RETURN
1555 NM$="GOOD WORK! ":LOCATE 20,4:PRINT NM$;" ";L$;" ":RETURN
1560 NM$="EXCELLENT! ":LOCATE 20,4:PRINT NM$;" ";L$;" ":RETURN
1565 NM$="SEHR GUT! ":LOCATE 20,4:PRINT NM$;" ";L$;" ":RETURN
1570 NM$="AUSGEZEICHNET! ":LOCATE 20,4:PRINT NM$;" ";L$;" ":RETURN
1575 NM$="HERVORRAGEND! ":LOCATE 20,4:PRINT NM$;" ";L$;" ":RETURN
1580 NM$="PRIMA! ":LOCATE 20,4:PRINT NM$;" ";L$;" ":RETURN
1585 NM$="SO ISTS RECHT! ":LOCATE 20,4:PRINT NM$;" ";L$;" ":RETURN
1600 FOR TM=1 TO 1000
1605 NEXT TM
1610 GOTO 1480
2000 LOCATE 23,16:PRINT "PRESS SPACE BAR TO CONTINUE"
2010 SP$=INKEY$
2020 IF SP$=" " THEN 2040
2030 GOTO 2010
2040 RETURN
2045 RESTORE
2050 FOR C=1 TO 50 : REM READ ARRAYS
2060 READ A$(C)
2070 NEXT C
2080 FOR C=1 TO 50
2090 READ B$(C)
2100 NEXT C
2110 RETURN
2120 B=0 : REM DISPLAY OF WORD GROUPS
2130 FOR C=1 TO 50
2140 PRINT TAB(18)A$(C);TAB(30)B$(C)
2150 B=B+1 : IF B=10 THEN GOSUB 2180
2160 NEXT C
2170 RETURN
2180 GOSUB 2000:GOSUB 1000:B=0:RETURN
2190 LOCATE 22,4:PRINT "WRONG AGAIN, THE WORD IS - ";D$(C): REM USER ERROR
2194 FOR TM=1 TO 2000
2196 NEXT TM
2198 GOTO 1480
3000 '*****
10000 DATA DOG, CAT, MOTHER, FATHER, SISTER
10010 DATA BROTHER, HOUSE, APPLE, PEAR, SCHOOL
10020 DATA TEACHER, SUN, MOON, STAR, PENCIL
10030 DATA BOOK, RED, WHITE, BLUE, GREEN
10040 DATA YELLOW, BROWN, LETTER, DOLL, TREE
10050 DATA FENCE, DOOR, WINDOW, CHIMNEY, FLOWER
10060 DATA DUCK, HORSE, PIG, COW, GOOSE
10070 DATA POND, OCEAN, RIVER, NOSE, MOUTH
10080 DATA EYE, FACE, ARM, LEG, HAIR
10090 DATA TODAY, TOMORROW, YESTERDAY, BOY, GIRL
10100 DATA DER HUND, DIE KATZE, DIE MUTTER, DER VATER, DIE SCHWESTER
10110 DATA DER BRUDER, DAS HAUS, DER APFEL, DIE BIRNE, DIE SCHULE
10120 DATA DER LEHRER, DIE SONNE, DER MOND, DER STERN, DER BLEISTIFT
10130 DATA DAS BUCH, ROT, WEISS, BLAU, GRUEN
10140 DATA GELB, BRAUN, DER BRIEF, DIE PUPPE, DER BAUM
10150 DATA DER ZAUN, DIE TUER, DAS FENSTER, DER KAMIN, DIE BLUME
10160 DATA DIE ENTE, DAS PFERD, DAS SCHWEIN, DIE KUH, DIE GANS
10170 DATA DER TEICH, DAS MEER, DER FLUSS, DIE NASE, DER MUND
10180 DATA DAS AUGEN, DAS GESICHT, DER ARM, DAS BEIN, DAS HAAR
10190 DATA HEUTE, MORGEN, GESTERN, DER JUNGE, DAS MAEDCHEN

```

As mentioned in an earlier editorial, the future is telecommunications. Since Sanyo didn't include the serial card in the MBC-555 series, you have to add a serial card yourself. At the time that I decided to add the serial interface to my Sanyo, it was in the \$100 range so I decided that I could build one myself for a more reasonable cost (approximately \$20).

The main component of the serial interface is the INTEL 8251A USART (universal synchronous/asynchronous receiver/transmitter), which takes data on its parallel bus and converts it into serial order. The 8251A is completely software controlled. Parity, word size and stop bits are variable. Parity can be even, odd or none; word size can be 5, 6, 7 or 8 bits; and the number of stop bits can be 1, 1½ or 2.

You select these characteristics by sending a control word to I/O Address 2A (Decimal 42).^{*} This means that all of the functions needed for serial communications are controlled by one low-cost controller chip and two chips to interface to the voltage levels required by EIA-RS-232 (modem or other serial device) and a communications program.

The interface can be constructed on a 3-by-4-inch perforated circuit board. A minimum amount of wiring is needed, and anyone with a small wattage soldering iron and some patience can construct the interface in one night.

Precautions

1. Use IC sockets so you don't have to solder directly to the chip pins.
2. The 8251A is a static sensitive chip, so do not take it out of its static-proof packing until you are ready to put it in the socket.

3. Remember to remove power from your system when installing the interface.

^{*}Further information on the operation of the 8251A controller can be obtained from INTEL's integrated circuit manual.

Bill Craft is a field engineering system specialist on large mainframe computer systems at Sperry's Worldwide Education Center in Princeton, N.J. He may be contacted at 1 Franklin St., Fallsington, PA 19054; (215) 295-2421.

Building a Programmable Interface

By William Craft

Parts List

Part	Quantity	Description
IC1	1	8251A USART
IC2	1	MC1488 quad line driver (Radio Shack 276-2520)
IC3	1	MC1489 quad line receiver (Radio Shack 276-2521)
IC4	1	74LS32 quad OR gate
C1-4	4	.01 uF capacitors (Radio Shack 272-1065)
	1	Perf-board (Radio Shack 276-1394)
SKT	1	40-pin IC socket (Radio Shack 276-1996)
SKT	3	14-pin IC socket (Radio Shack 276-1999)
CON1	1	12" 20 conductor ribbon cable
	1	Ribbon header socket (type IDS20)
CON2	1	DB-25 PC connector (AMP 745353-3)
		(RS-232 MALE connector)
MISC		#30 Gauge wire/solder

All of the above can be ordered from JAMECO Electronics, 1355 Shoreway Road, Belmont, CA 94002; (415) 592-8097.

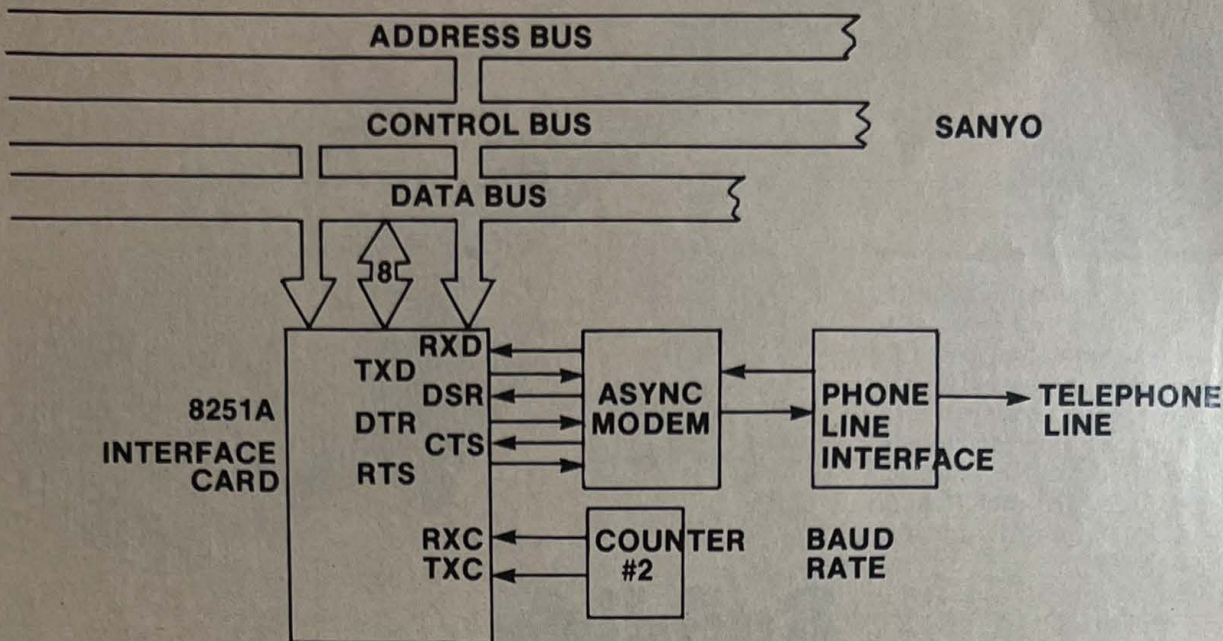


Figure 1: Asynchronous interface to telephone line

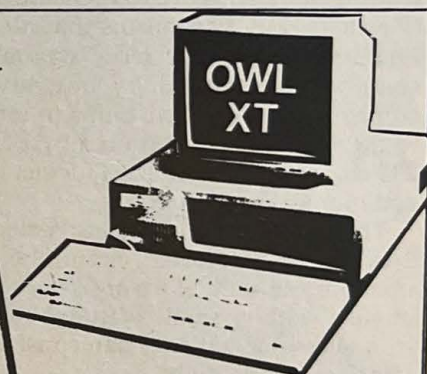
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PRICE TO INCREASE MEMORY TO 640K	\$49.	\$89.	\$130.
FLOPPY DRIVES	1 STD 2nd \$90.	1 STD 2nd \$90.	2 STD
KEYBOARD	STD-AT STYLE	STD-AT STYLE	NOT INDUSTRY STD
EXPANSION SLOTS	8 TOTAL-8 LONG	5 TOTAL -5 LONG	5 TOTAL-0 LONG
HARDWARE COMPATIBILITY MAX 1/2 HGT DRIVES	TOTAL -4-	TOTAL -4- **	ONLY PARTLY -2-
DMA CHIP	STD	STD	OPTIONAL (SUPPLIED WITH MEMORY UPGRADE)
OPTIONS	\$59.	\$59.	\$80. (NO CLOCK)
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Figure 2: Serial card schematic

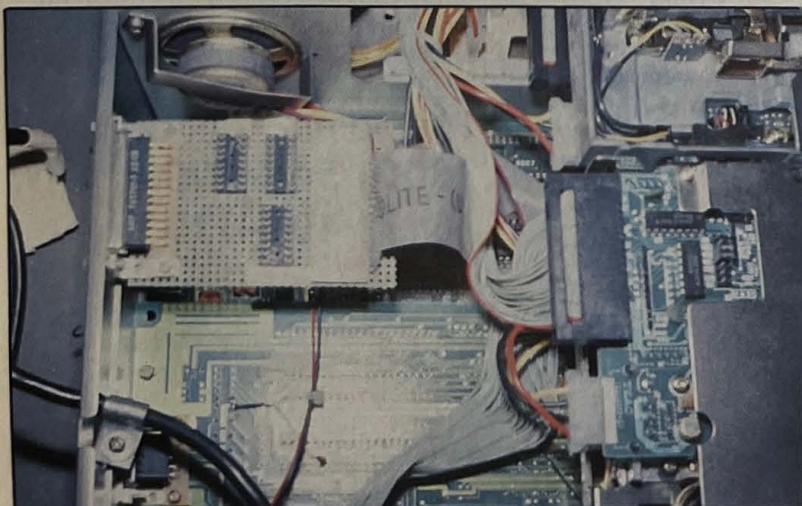
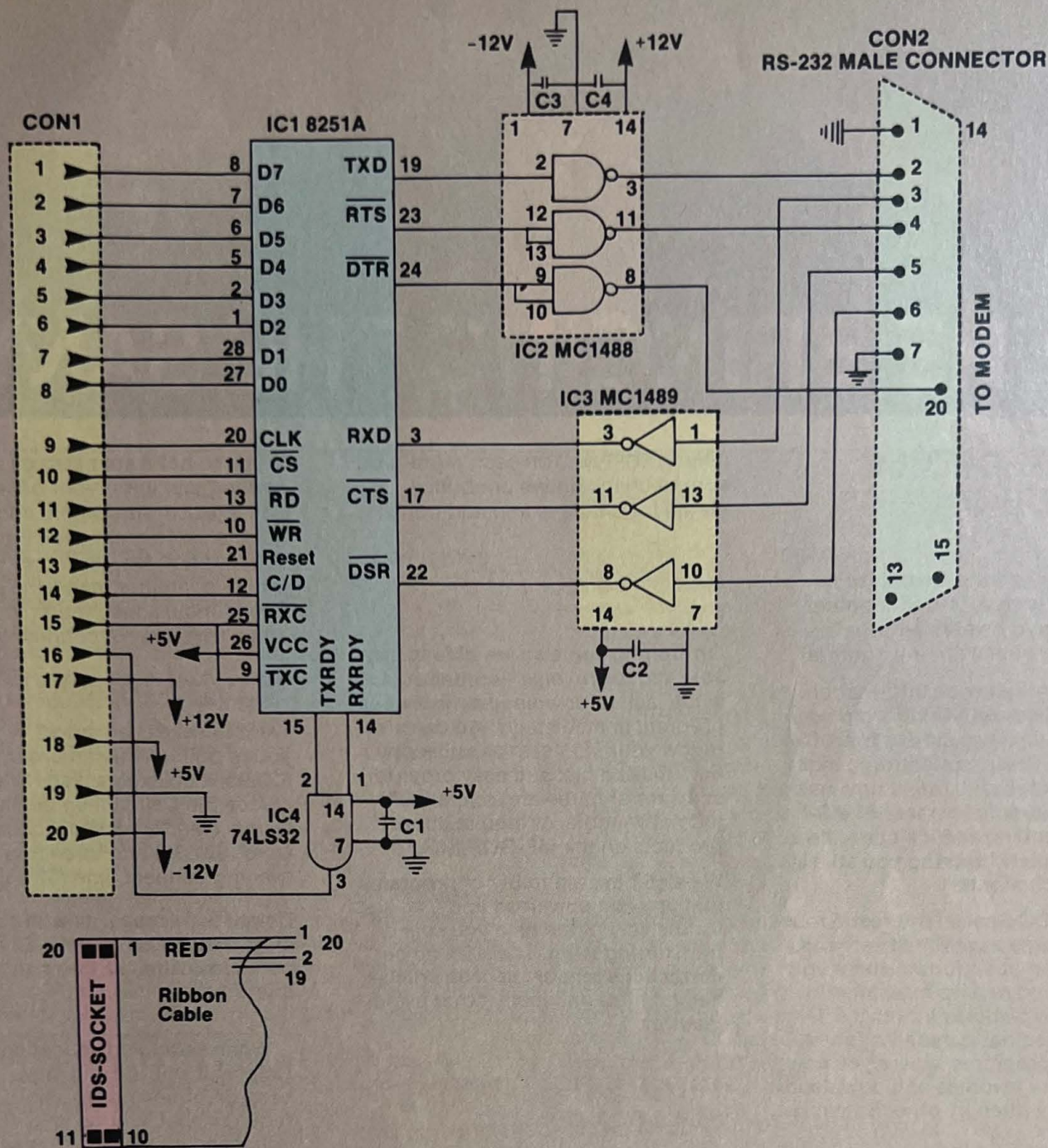
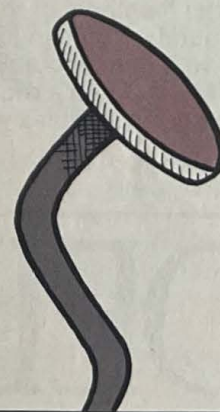


Figure 3:
Serial card
installation





WE'RE BRINGING THE SANYO

SOFT SECTOR'S BROADENING ITS SPECTRUM

SOFT SECTOR and the Delphi Information Utility have joined together to allow Sanyo owners all over the world to connect with one another!

Delphi is a full-service information utility. It offers everything from up-to-the-minute news stories from The Associated Press to electronic mail services. But, *best of all*, it now has **a special forum for owners of MS-DOS computers, and it's operated by the people who bring you SOFT SECTOR each month.**

The MS-DOS Special Interest Group (SIG) features a variety of services, including an open forum where you can send and receive messages from Sanyo owners all over the world. It also has databases for exchanging programs, where you can upload your favorites and download programs written by other Sanyo enthusiasts.

THE WORLD OF MS-DOS

The MS-DOS SIG's conference feature allows you to meet electronically with other members of the Sanyo Community. You can join conferences with many notables in the world of MS-DOS on a regular basis. Conference schedules will ap-

pear in SOFT SECTOR each month. Be sure to check online announcements for changes and additions.

SOFT SECTOR ON LINE

On Delphi, you also are able to buy SOFT SECTOR ON DISK — order a whole set, or download an individual program immediately. You can also renew your SOFT SECTOR subscription, make a fast and easy order for software or hardware from a multitude of vendors, or inquire about products on the MS-DOS SIG.

We also have a number of **programs that you can download** and use, just for the cost of the time you spend transferring them. There'll also be **corrections for SOFT SECTOR articles**, helpful hints and many other useful features.

FREE LIFETIME MEMBERSHIP

SOFT SECTOR is offering subscribers a free lifetime subscription to Delphi — a \$24.95 value — and a free evening hour of connect time — a \$7.20 value at either 300 or 1200 Baud during evening, holiday and weekend hours — so you can sample Delphi and the brand new SOFT SECTOR MS-DOS SIG. **That's right. Your subscription to SOFT SECTOR entitles you to this \$32.15 value as a free bonus!**

If you're not a SOFT SECTOR subscriber, just enter your order when you sign on with Delphi and you'll get the same great deal! For our \$28 subscription fee, you'll get the finest Sanyo computer magazine ever, a free lifetime subscription to Delphi and a free hour of connect time.

SAVE EVEN MORE

Want to save even more? While you're online you can order, for only \$29.95, a deluxe package which includes the Delphi membership, the *Delphi Handbook and Command Card* (\$21.95) and three hours of evening connect time (\$21.60).

Delphi provides us all with **Immediate Sanyo Community**. Check it out today. After all, you can sample it for free!

When setting up your account with Delphi, if you do not have a credit card or prefer not to use it, Delphi requires that you send \$20 to give your account a positive balance. This will be refunded after your first free hour if you choose to no longer use the system or it will be applied to future connect charges. If you do not maintain a positive balance, you will be charged \$3.50 each month for direct billing.

Problems? Call Delphi:
(800) 544-4005
(617) 491-3393

DELPHI

TYPE:
GROUP MSDOS



COMMUNITY TOGETHER!

How to reach the MS-DOS SIG on Delphi . . .

There are several ways to connect to Delphi and SOFT SECTOR's MS-DOS SIG. In most cities you will not even have to pay long distance charges; you can use special data communications networks, like Uninet, Tymnet and the Canadian Datapac network.

First, set your terminal program to operate at either 300 or 1200 Baud (depending on the modem you have), and also select either 7 bits with even parity or 8 bits with no parity, and one stop bit. (If one combination doesn't work, try another.)

Decide which network you should use. There is no surcharge for Uninet or Tymnet. Canadian residents using Datapac will be charged an additional \$12 (U.S.) per hour.

On Telenet: The Uninet network has now merged with Telenet. To get the Telenet number for your area, call (800) 336-0437. After you call your local access number and make connection, press the ENTER key twice. When the "TERMINAL=" prompt appears, press ENTER again. When the "@" prompt appears, type C DELPHI and press ENTER.

On Tymnet: Call (800) 336-0149 to get the Tymnet number for your area. After you dial your designated number and make connection, simply press 'A' no matter what appears on the screen. When "please log in:" appears, type DELPHI and press ENTER.

From Canada (on Datapac): Call Delphi Customer Service at (617) 491-3393 to get the Datapac number for your area. After you connect, press the period key (.) and ENTER (use two periods if you're using 1200 Baud). Type SET 2:1, 3:126 and press ENTER. Now type p 1 3106, DELPHI; and press ENTER. Delphi's new rates indicate an additional \$12 hourly surcharge for evening use of Datapac, which means a total of \$18 (U.S.) for connect time.

From other countries: Many countries have their own data networks that can connect to either Uninet or Tymnet. Check with the telephone authorities in your country for details on how to sign up for this service. When you have an account set up, you can reach Delphi with a "host code" of 312561703088 through Uninet, or 310600601500 through Tymnet. (You'll have to pay the toll charges for this connection.)

Type in Your User Name

If you're already a subscriber to SOFT SECTOR, at the "USERNAME:" prompt, type SOFTSECTORSU and

press ENTER. At the "PASSWORD:" prompt, type your individual subscription number from the mailing label of your latest issue of SOFT SECTOR. (If there are one or more zeros at the beginning of this number, include them.)

If you don't already have a subscription, at the "USERNAME:" prompt, type SOFTSECTOROR and press ENTER. At the "PASSWORD:" prompt, type SENDSUB and press ENTER. Have your MasterCard, VISA or American Express card ready, because you'll be led through a series of questions that will enable us to put your SOFT SECTOR and Delphi subscriptions into effect. In an effort to hold down non-editorial costs, we do not bill for subscriptions.

If you make a typing error, just press ENTER and start over. Remember that at any point, when you're on Delphi, you can type HELP to get help on how to use the system. To get off the system just type BYE.

If you find that you're unable to log onto Delphi and enter the MS-DOS SIG after following these instructions, call us during afternoon business hours at (502) 228-4492. We'll be glad to offer assistance.

Come Visit Us! Type: GROUP MSDOS

After you sign in, you'll be prompted to set up your own, personal "user name" — Delphi is a friendly service, no numbers to remember — and you'll be asked a number of questions so Delphi can set up your account. You'll also be assigned a temporary password. No time is assessed against your free hour of service while you answer these questions.

Delphi will tell you that your account will be ready after 6 p.m. the same day if you sign up before noon (Eastern time zone.) If not, your account will be ready at 6 p.m. the next day. Once an account is opened, *each SOFT SECTOR subscriber will be credited with an hour of free time!*

When you log back in, use your chosen user name and your temporary password to access the system. At that point, you will meet Max, who will help you configure things and will change your temporary password into your own *personal* password. This is the password you will use for subsequent sessions — or until you change it.

After Max bids you goodbye, you'll wind up at the Delphi Main Menu; type in GROUP MSDOS and **join us on the MS-DOS SIG!**

Delphi Bureau

*By Kevin Nickols
MS-DOS SIG Manager*

As some of you may have heard by now, GTE Sprint and US Telenet have combined to form US Sprint Communications, a single long-distance communications service. This means that the Uninet network, used by many to access Delphi, has been merged with the Telenet network and will be known as Telenet.

A representative of Telenet says the transition will be a smooth one for current users of the Uninet network. However, Uninet users should get a new Telenet access number as soon as possible. At this time, all Uninet access numbers continue to function, but they will gradually be phased out.

Uninet has always provided very good communications service going into Delphi, and the Telenet connections seem to be equally good. Telenet features nearly 18,000 exchanges nationwide, and access from 70 international locations. There will also be Telenet Access Centers in several new locations, so if you have not previously had a local network access number to reach Delphi, you may have one now.

To get your new Telenet access number, call their 24-hour customer service line at 800-336-0437. Overseas locations who do not have WATS access can call 703-689-6400.

New Logon Procedures

If you have been accessing Delphi through Uninet, your logon procedures will also be different. For those who have created automatic logon procedures for your terminal program, they will have to be changed. Here are instructions for logging onto Delphi through Telenet.

- 1) Dial your new Telenet local access number.
- 2) When you have a connection, press the ENTER key twice.
- 3) When the prompt `TERMINAL=` appears, press the ENTER key once again.
- 4) When the ampersand `@` prompt appears, type `C DELPHI` and press ENTER.
- 5) Answer the `USERNAME` and `PASSWORD` prompts as always.

If you have not yet joined us in the MS-DOS SIG on Delphi and would like to, see the Delphi ad on pages 36 and 37 for complete instructions on how you can log on and get your free lifetime membership and free hour of access.

Setting the MS-DOS SIG As Your Default Menu

When you first log on to Delphi, you enter at the system's Main Menu, then you must go through the Groups & Clubs Menu and select MS-DOS there to get into the MS-DOS SIG. Entering the SIG in this manner takes some time and effort each and every time you log on to pay us a visit. And of course, on a communications service, time is money.

There is a better way. Delphi has a very handy feature that permits you to set the MS-DOS SIG as your default menu. Then, each time you log on, you will be dropped directly into the MS-DOS SIG, saving time, effort and money.

To do this, type `WD` to enter your personal Workspace from the SIG Menu. Then type `SET` to select the Settings feature.

You will be greeted by the Settings Menu, where you can make several changes to personalize your account.

Now type `DEF` to select the Default Menu setting. You will be informed that the system default is `MAIN`, Delphi's Main Menu. Enter `GR MS` to change your own default menu to Group MS-DOS. Now you can enter `EX`, for Exit, or `CONTROL-Z` to back on out of the Settings area.

That's all there is to it. From then on, you will find yourself right in the MS-DOS SIG every time you log on to Delphi.

The Settings feature has recently been enhanced to allow users greater flexibility in setting up defaults and parameters for their own account. Next month we will take a look at some of the other things you can do in this area.

New Telenet Access Centers

State	Area Code	Access Center	300/ 1200 Baud	2400 Baud
Alabama	(205)	Tuscaloosa	345-2077	
Arkansas	(501)	Fort Smith	782-2852	
California	(707)	Vallejo	552-6656	
California	(415)	Concord		674-0127
California	(714)	Garden Grove		895-1207
California	(415)	Palo Alto		865-0484
Colorado	(303)	Colorado Springs		578-0950
Colorado	(303)	Grand Junction	241-3004	
Connecticut	(203)	New London	447-8455	
Connecticut	(203)	Norwalk	866-7404	
Iowa	(319)	Dubuque	556-0783	
Iowa	(319)	Waterloo	232-5441	
Louisiana	(504)	Baton Rouge		343-0771
Maine	(207)	Brewer	989-3081	
Massachusetts	(617)	Brocton	580-0721	
Massachusetts	(617)	Lawrence	975-2273	
Massachusetts	(413)	Northampton	586-0510	
Michigan	(517)	Midland	832-7068	
Michigan	(313)	Pontiac	332-5120	
Michigan	(517)	Saginaw		799-3190
Nebraska	(402)	Lincoln		475-3839
New York	(716)	Buffalo		847-1825
New York	(914)	Poughkeepsie		473-3200
North Carolina	(919)	Greensboro		275-1251
Ohio	(419)	Toledo		255-1906
Ohio	(216)	Youngstown		743-6843
Oklahoma	(918)	Bartlesville	336-3675	
Oklahoma	(405)	Oklahoma City		232-9513
Oklahoma	(918)	Tulsa		587-2774
Pennsylvania	(215)	Allentown		770-1405
Pennsylvania	(717)	Danville	271-0102	
Pennsylvania	(717)	Wilkes Barre	829-3108	
Rhode Island	(401)	Providence		831-3990
South Carolina	(803)	Greenville		271-0231
South Dakota	(605)	Rapid City	348-2621	
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Software review

Paperback Writer — A Practical Product for the Price

When a product presents itself as "practical," it can often mean sparse documentation, primitive programming or the lack of neat features. Occasionally, a product comes along that attains a certain elegance in its simplicity and practicality. Hark back to *EasyWriter I*. Almost anyone could sit down with it and learn the basic features in just a few minutes. On the other end of the spectrum, of course, programs like *WordStar* forced the user to wallow around the manual aimlessly, learning non-mnemonic control codes, one after the other.

Paperback Software International's very practical and elegant word processing package, *Paperback Writer*, (named after a Beatles' tune, for those of you old enough to remember), is a program to put any novice at ease. Even hard-core screen hacks will like the search and replace features, recall of deleted text, and non-document mode for programming.

This program handles traditional operations such as underline, boldface, centering of text, and moving or copying blocks. For the refined researcher, however, there are no superscript or subscript commands, nor any commands to control pitch. This is not the package with which to write your thesis, but you can do just about everything else.

Paperback Writer satisfies even the most manual-averse user by giving a quick-and-dirty "how-to" section in the front of the manual. This practice is thankfully becoming more and more popular as user sophistication increases and user patience with manuals decreases.

It's a good value for \$99.95. You get a well-written, logical, and blissfully to-the-point manual, constrained but adequate word processing power, and excellent user friendliness. Couple this package with the spelling checker of your choice and you've got a hard-to-beat combination.

Paperback Writer uses a copy-protection scheme of the Softlock variety similar to that of *Lotus 2*. This means you can make a copy, but you cannot use it without having the original in Drive A at the start of the session. Users can copy the program to a hard disk but must also have the original floppy in Drive A. Given the practicality and low price of *Paperback Writer*, I was surprised they went this route. Should your disk crash or otherwise fail during the first 90 days, you get a free replacement; after that, it's \$5.

If you have questions about the package, PSI has a Telephone Consulting Service that charges \$5 for the first five minutes and \$1 for each additional minute. That translates into \$60 per hour, so have all your problematic ducks in a row before you call. The number is not toll free, by the way.

(Paperback Software International, 2612 Eighth Street, Berkeley, CA 94710; 415-644-2116, \$99.95)

— George Smart

Smart Set — An Entertaining Educational Tool

The four-member panel that was convened for the adjudication of MVP Software's *Smart Set* learning programs ranged in age from 6 to 12. None had other than minimal experience in the operation of a home computer, although all but the 6-year-old had been exposed to a computer at school. All were girls: Sarah, 6; Melissa, 8; Lauren, 10; and Stephanie, 12.

One of the immediately apparent benefits of making *Smart Set* a permanent part of your program library is its ability to appeal to a broad range of skills. While Sarah and Melissa were content to solve simple math problems (e.g., $1 + 2$, $7 - 3$), Lauren and Stephanie forged ahead to problems that required paper and pencil (e.g., 36×24 , 17×42). Each was able to sit at the keyboard with minimal supervision and work for almost an hour without a trace of boredom.

Smart Set is very easy to load and operate. After watching the process once, and without being told to note the steps involved, the girls were able to access the program without supervision. Sarah and Melissa were supervised through initial booting and loading of BASIC, but beyond these steps, they were all on their own.

The main menu offers three possibilities: Learning Letters, Wombats and Mind Builders. The first of these is designed for preschoolers, offering them the opportunity to locate letters on the keyboard and, with adult supervision, to recognize simple words (cat, dog, ball). None of our panelists spent more than a minute or two toying with this program, but as an introduction to the machine and keyboard, it is an excellent tool. One option (Alphabet Drill) flashes a letter on the screen and prompts the child to press the appropriate key. The other option (Spell It) provides the child with a blank screen that displays any keys pressed in letters two to three inches high. This option can be utilized by adults to display simple words for a recognition exercise.

The second option of the program's main menu is entitled Wombats, and was greeted by each member of the panel with a bemused expression and the question, "What's a Wombat?" While unable to provide them (or you) with a precise answer to that question, I can tell you that the Wombats option provides the child with an opportunity to solve word problems ("Jane had three Wombats and bought two more at the store. How many Wombats does Jane have now?").

The user can select addition, subtraction, division, multiplication or a "Grab Bag" of problems. With all but the Grab Bag option, the user can choose the level of difficulty by selecting a range of numbers. (Sarah and Melissa stayed within the 1 to 10 range, for example, while Lauren and Stephanie went for bigger numbers.)

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Following an input prompt, the program addresses the child by name. In addition, many of the objects and names used in the word problems are entered by the child. The program has no respect for reality and is prone to note, for example, that Jane pulled 32 dogs out of her pocket or that 20 tables jumped out of a sphere or that 18 rocking chairs were caught in rocking chair traps.

Wombats can also be tricky. Take, for example, the following problem: "Alan's rich uncle gives you a rosewood box with 170 apples in it. You share them with nine friends who come to a tea party. How many apples does each have?" Stephanie promptly divided 170 by nine and got the wrong answer because she had failed to include herself in the division.

Or this: "A seed packet has three seeds in it. Melissa plants three seeds in each hole. How many holes does Melissa need?" Seated beside Melissa at the time, I was prompted to comment that the answer would depend on how many seed packets she had. Note that it does not say that *Melissa* had a seed packet, only that each packet has three seeds in it.

Among our panelists, Wombats was, by far, the most popular program of the three main menu options, primarily because the process engaged the child in providing input and because of its inclinations toward semantic nonsense.

The third option on the main menu, Mind-Builders, contains three options: Math-A-Magic, Telling Time and Spelling Bee. As with Wombats, Math-A-Magic allows the user to select both the type of problem (addition, subtraction, multiplication and division) and a level of difficulty (selecting a range of numbers). Math-A-Magic, however, poses its problems numerically (10 - 2, 7 x 3, 8 + 4, etc.).

Panelists Sarah and Melissa, in keeping with their skill level, worked on simple addition and subtraction, while Lauren and Stephanie went for the more complex problems. Here, a small problem arose. In Math-A-Magic, double-digit answers must be entered backwards. For example, 9 x 7 must be entered as

36, instead of (as in Wombats) 63. The number will appear correctly on the screen, but it would seem to reinforce learning of what is, essentially, a wrong answer. In other words, the child is being required to answer "9 x 7" with a finger response of 36.

In addition, for more complex problems (25 x 36, for example), the user must resort to a paper and pencil. While both Lauren and Stephanie did so willingly, it tended to distract them from direct interaction with the program and often sent them back to the more amusing Wombats, which allowed them to drop the pencil. It would be useful if the program could work just like a paper and pencil. In other words, if the program allowed the entrance of interim work before the final answer (e.g., 5 x 6 = 30, enter the 0, carry the 3). It would, of course, increase the complexity of the program. On the other hand, it would enhance the learning process.

Telling Time, another Mind Builder option, is self-explanatory. The program draws a clock dial with hands and asks for the correct time. The program was too simple for Stephanie and Lauren and too difficult for Sarah. Melissa's initial responses were, for example, "ten after eight" or "nine-thirty." It took one or two examples before she caught on to the entrance of digital responses.

Spelling Bee, the last Mind Builder option, is also self-explanatory. The 7,000-word dictionary picks 10 words, depending on the selected difficulty (length of word) and flashes them on the screen for a predetermined length of time. It failed to hold Lauren's or Stephanie's attention for any length of time because they quickly caught on to the idea that if you watched the screen, it would, in fact, spell the word for you. All they had to do was, in essence, parrot the response. In addition, at the most difficult level (9), it asked them to spell words like "sheets" or "telephone number." It also repeated words in successive drills.

Smart Set is a worthwhile program, if for no other reason than it will be useful to one child for a number of years or useful to a number of age levels at the same time. None of the four panelists have, as yet, exhausted their enthusiasm for firing it up and playing around. Parents should be aware that, left to their own devices, our panel invariably underchallenged themselves. (Lauren, for example, often chose to add the numbers between one and 10, rather than work with figures that would have challenged her. Even Stephanie, the oldest, tended to work with numbers that offered her the opportunity to play instead of think.) Of course, they could not realize that their very interaction with the computer was, in itself, an important learning process.

The documentation suggests that parents strike some sort of happy medium between involvement and allowing the child to work on his/her own. It is sound advice and should be followed.

(MVP Software, 1035 Dallas SE, Grand Rapids, MI 49507; 616-245-8376, \$39.95)

— Skip Maloney

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Computer-Assisted Investment Handbook — Let Your Computer Guide Your Investment Decisions

While most of us are using our computers for word processing or spreadsheets, a few astute persons are quietly analyzing their investments with the power of their computers and quietly making a lot of money. There are those people who work harder, and there are those who work smarter. Dr. Albert Bookbinder would like to show us all how to work smarter with our microcomputers, so he prepared this book and its programs.

In this compilation of 50 programs, you will find the means of calculating 50 different financial analyses. The text is aimed at showing how computer programs can be used to solve problems in investment decision making. Some of the many topics covered are: statistical data analysis, seasonal variation, present value, yields of various investment options at various interest rates, soybeans, foreign exchange, stock forecasting and mortgages.

The author has carefully prepared the programs to be mathematically correct. A short discussion of the financial analysis method is presented for each of the 50 programs. Then the BASIC listing of the program is provided, followed by an example of its use.

Each program is short, simple and straightforward. They all ran fine for me. GW-BASIC on the Sanyo 550 series with a Video RAM Board or on the newer PC clones is required. Many, but not all of the programs will run under Sanyo BASIC on the stock 550 series, but a few minor changes in syntax will make them run if you are handy with BASIC.

The publisher sells the 47K bytes of programs on disk for the hefty price of \$100, which is rather high compared to the price of the book in which they are all listed. I would prefer that a package such as this, which offers so many calculation options, be integrated. All of the programs could operate as choices from a central menu and data could be shared between the calculation options, but this has not been implemented in this package.

Data is entered separately for each program and is not saved to disk. Printed output of the work or results is not supported. The programs that may be purchased on disk are given shortened names that are not indexed within the book by function, so it may initially be confusing to locate the one you want.

This book would be good for persons acquainted with the analysis of investment decisions who wish learn how computers can be applied to the task. After all, we all need to work smarter and harder to get ahead.

(Programmed Press, 2301 Baylis Avenue, Elmont, NY 11003; 516-775-0933; Book, \$19.95; Disk, \$100.)

— Edward Kerns

Quick & Simple — The Name Says It All

Quick & Simple is a software package that performs its function just as its title suggests: It allows you to quickly enter data, then sort and print your data in a variety of different ways. To see just how simple this package is to use, I decided to use it without reading the documentation.

In order to see what program to execute, I displayed the directory to see the names of all programs on the disk. I saw a file called QUICK and decided that it must be the main program, so I keyed in QUICK and pressed ENTER. What a good guess! It ran, and then asked which drive I wanted to use.

Next, it prompted for the name of the database I wanted to utilize. After I entered my database name and pressed ENTER, it asked me to describe my field layouts, which I did. At the conclusion of describing my fields, the program prompted me to assign a primary and secondary key. After my format was built, I was presented with a menu from which I could choose to enter, modify, delete and even create a report. Since this was a new format, I chose to insert some sample records.

The speed of entry was impressive, and after I had entered about 20 records I decided to try a new function called LOCATE. This works by keying in a search string of data and pressing ENTER. Once a record was found, I had the option to continue the search for the next occurrence if I wanted to.

I also tried the REPORT function. This allowed me to create three types of reports called List, Group and Vertical reports. By using these reports with my data, I could report my information in any way I could think of and even create subtotals for each group with the same primary key.

I must say that my test of using this package without reading the manual first was a success. After my experiment was over, I did read through the small manual (12 pages), and found the manual as easy to follow as the program is. As a data processing manager, I can appreciate productive and easy-to-use software packages — this is one such package. It contains many features of *QUERY/36*, which I use daily on our IBM Sys/36, and I can assure you that the \$49.95 price tag on *Quick & Simple* is a bargain and much easier to use and learn than, say, *dBASE III*.

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— John Chumney

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SuperCross/XT — A Simple File Transfer Program

If you use a TRS-80 Model I, III, 4, 4P or 4D, or one of its clones, *SuperCross/XT* is the easy way to format disks and copy files to and from any of the Sanyo MS-DOS machines (including the MBC-550/555 without a Video RAM Board). As a matter of fact, you can even transfer files with a Sanyo CP/M machine!

Years of word processor text files, data files, business letters, legal drafts, medical records or spreadsheet files (if they are saved in ASCII) can be moved from your TRS-80 to your Sanyo or vice versa. You can copy a TRS-80 BASIC program (saved in ASCII) and run it on your Sanyo with some simple changes, unless it makes use of graphics or has system machine language calls. Most of the required changes can be made automatically using an optional program called *Convert BASIC*. If you are an experienced programmer, even assembly language source files can be moved and used with a translator program.

Best of all, there is no extra hardware to buy since everything is done with the programs!

To appreciate the enormous convenience of this disk method of transferring programs, consider the alternatives:

1. Type every program, text file or data file into your Sanyo. This is normally a long and tedious job and subject to many typing errors.
2. Electronic transfer between computers, which involves telephone lines, modems and terminal programs for both the source and target computers.
3. For a direct-wire transfer (eliminating the phone lines and modems) the computers have to be within about 50 feet of each other. Also, both of the last two methods involve matching telecommunication protocols such as Baud rates and word formats.

SuperCross/XT is a quick, easy way to get a program, data or text from the disk of your TRS-80 to a disk that can be read directly by your Sanyo. Or, you can read a file from your Sanyo and write it onto a TRS-80 disk. The whole operation only takes seconds and there are no cables, switches, or other hardware or software to use besides *SuperCross/XT*, which handles 90 MS-DOS and CP/M formats. An expanded version, called *SuperCross/XT+*, has 170 formats.

Your TRS-80 needs at least two disk drives. You format and transfer files with simple commands. TRS-80 Drive 0 is used in the normal way, and Drive 1 operates as the "alien."

Although most TRS-80s use only single-sided drives, most double-sided drives and disk operating systems will read and write single-sided. This means you can generate an MS-DOS or CP/M single-sided disk using *SuperCross/XT* on your TRS-80, and read it on the your Sanyo, or vice versa.

I tested the Model III version of *SuperCross/XT*, using TRSDOS 1.3 on the TRS-80. *SuperCross/XT* is menu driven, and is extremely easy to use. You simply select the alien format you want to use for Drive 1, and then issue a command from the menu of those available. A help screen is available to summarize each available command.

I chose PC/MS-DOS 1.1, 40-track SSDD as my alien format since this is readable on my Sanyo MBC-550 MS-DOS computer. First, I formatted and verified a Sanyo disk on Drive

1. It only took 45 seconds, about 30 seconds *faster* than MS-DOS on my Sanyo!

Next, I copied a TRS-80 data file, saved in ASCII, to the alien disk. I also copied a TRS-80 BASIC program, which had been saved in ASCII with the SAVE "FILENAME", A command, to the alien disk.

I carried the alien disk from Drive 1 of the TRS-80 over to my Sanyo, booted the Sanyo with its system disk in Drive A, and then replaced that disk with the alien disk I had just made on the TRS-80. The DIR command showed the two files, confirming that the disk had been formatted to be read by MS-DOS.

Using the MS-DOS TYPE command, I displayed each of the files and they read perfectly on the Sanyo screen. I reinserted my Sanyo system disk in Drive A and got into BASIC. Again I swapped the system disk for my new alien disk, and loaded the transferred BASIC program into memory. It listed perfectly on the screen and printer, but it would not run without crashing. There are some syntactical differences between TRS-80 BASIC and Sanyo BASIC.

This is where the optional Powersoft program *Convert BASIC* can be a lifesaver. This program literally converts a TRS-80 Model I or III BASIC program to be closely compatible with the BASIC used on most MS-DOS machines. For example, the TRS-80 BASIC cursor-locating statement PRINT@ XXX is changed to the appropriate MS-DOS BASIC LOCATE X,Y statement, and all TRS-80 keywords are preceded and followed with spaces.

Graphics commands are not supported. The program is smart enough to know when it has run into a potential translation problem and puts :REM!! at the end of each program line where it suspects a problem.

This is all done in real time, line by program line, and done quickly. Then, to top off the convenience of using *Convert BASIC*, the converted program is saved in ASCII, all set to transfer with *SuperCross/XT*.

Documentation for *SuperCross/XT* consists of an excellent 52-page, indexed, loose-leaf manual. In addition to FORMAT and COPY, commands described in detail include XFER, DIR, ERASE, KILL, REMOVE, TAG and others. Powersoft also provides registration and support of their programs for updates or assistance.

I have made extensive use of *SuperCross/XT* and *Convert BASIC* in transferring various TRS-80 BASIC programs to my Sanyo MBC-550. Several of these programs were used in my book, *Sanyo MBC 550/555 Beginner & Intermediate Guide*. Also, my *AMBIZ-PAK*™ of programs for Amway Product Distributors has 270 data lines defining product prices. These are first updated with a word processor on my TRS-80 Model III, and then transferred with *SuperCross/XT* to the Sanyo where this data is used by the Sanyo and IBM PC versions of the *AMBIZ-PAK*.

When ordering *SuperCross/XT* or *XT+*, you must specify whether you have TRS-80 Model I, III, 4/4P/4D, MAX 80, Genie 1, or LNW80 1 or 2. Contact Powersoft if you aren't sure which format compatibility you need with *SuperCross/XT* or *XT+*. If you just want to transfer programs between a TRS-80 and your Sanyo MS-DOS machine, you don't need the *XT+* version.

SuperCross/XT (90 formats) sells for \$99.95. *Convert BASIC* sells for \$29.95. If you buy both as a package, the price is \$119.95.

SuperCross/XT+ (170 formats) sells for \$129.95, or \$149.95 with *Convert BASIC*.

(Powersoft, 17060 Dallas Parkway, Suite 114, Dallas, TX 75248; 214-733-44755, \$99.95 plus \$3 S/H)

— Fred Blechman

EXACT — A Mathematician's Dream Package

In this age of computers, the writer can format his text any way he wants. He can move blocks of text, choose the printing style, and delete to his heart's content without ever throwing away a sheet of paper. The draftsman has his CAD system. No longer does he need to sit hunched over a sheet of paper hoping the ink doesn't run at the very last part of his work. The accountants have their spreadsheets and the librarians and others, who need to keep track of large amounts of easily recoverable data, have their database programs.

Pity the poor mathematician who still draws his cryptic symbols by hand. He writes the document, then asks his secretary to leave blank spaces for the equations. However, this is not always an effective arrangement. Often, there just isn't enough room, or there is too much room. Further, if he makes a mistake or smudges a line, it's back to the secretary to have the whole thing redone.

EXACT, by Technical Support Software, Inc. can change all that. With just a few hours of learning time and his trusty PC and word processor, the mathematician can put his equations right in the text where they belong.

EXACT is a typesetting package with a strong emphasis on mathematics. It sells for a whopping \$475 with academic discounts available. I would think that people in the academic world would be the most likely to purchase *EXACT*. Most of us have little need for the extensive capabilities for printing complex mathematical symbols afforded by this program.

I tested the output on two printers: the Hewlett-Packard Thinkjet and the Epson LX-80. Both looked surprisingly good.

Before we go further, let me point out that *EXACT* is a typesetting package and is not limited to mathematical symbols alone. It produces almost any font one could want. I printed a short document in italics on the LX-80 and the results were excellent. *EXACT* also allows any Epson-compatible printer to produce excellent near-letter-quality print. All the basic typesetting tools are available — text spacing, text rotation, justification in all directions, size and font selection on a page or word basis, and the ability to format in columns along with many other features.

Still, mathematics is its big thing and TSSI seems to put most of the emphasis in their literature on its use as a mathematical tool. With that in mind, let's take a look at what it can do with all those symbols.

To begin with, *EXACT* is very easy to install and the manual includes a fairly extensive quick-start tutor session. All instructions are activated by inserting a \$ in the text of the word processor. For example, to begin a block of text that is to be printed through *EXACT*, simply type \$/head/. At the end of the text, type \$/foot/. Everything in between will be handled by *EXACT*, and everything else will be handled by the word processor as usual. The following is a small example from the book:

$$\int_0^x$$

That was an easy one. Even I have some small concept of its meaning. Try this one:

$$\frac{\partial p}{\partial t} + \frac{1}{r^2} \frac{\partial}{\partial r} (r^2 p v_r) + \frac{1}{r \sin \theta} \frac{\partial}{\partial \theta} (p v_\theta \sin \theta) + \frac{1}{r \sin \theta} \frac{\partial}{\partial \phi} (p v_\phi) = 0$$

Pretty, isn't it? If you understand that one, you definitely need *EXACT*.

Here's what it looks like without running through *EXACT*:

```
$/fr/$@14$r$, $@14t$. $=
+ $/fr/1$,r$#2$. $=
$/fr/$@14,$@14r$(r$#2$rv$%r) $=
+ $/fr/1$,r sin $q$. $/fr/$@14.$=
$@14$q$.(rv$%$q sin $q)
+ $/fr/1$,r sin $q$. $=
$/fr/$@14,$@14f$.(rv$%$f) $=
```

I know that looks like a lot of work. It also looks like complete gibberish. It is a lot of work. At least, it was a lot of work for me to type it all in. That's because I haven't used *EXACT* enough for it to become second nature to me. Everything takes practice and *EXACT* is no exception.

As for its strange appearance, *EXACT* has provided for that area, too. Just press LEFT SHIFT F7, and you will find yourself in the *EXACT* edit mode. Now when you enter the symbols, you can see onscreen how they will look on paper. The edit mode has a zoom feature, too and will allow you to look at any part, or all, of your wonderful equation. If you find any errors, correct them in the edit mode. When you are satisfied, press LEFT SHIFT F10 to insert the equation into your text.

TSSI seems to have thought of everything. The normal *EXACT* functions are called by using the LEFT SHIFT and function key sequence. Trouble is, *WordPerfect* also uses that sequence. But TSSI handled that problem by providing a file to convert the *EXACT* combinations to RIGHT SHIFT plus function key. One note along these lines: *Superkey* makes no distinction between the right and left shift keys and the results can be rather strange at times with *EXACT* installed.

Now let's take a look at a few of the other features of *EXACT*. As I mentioned earlier, changing to another font is easy.

The fonts available are: Roman, Math, Italics, Minroman (a small version of Roman), Minmath (small Math, of course),



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Bold, Xmath (don't ask me), Minxmath (smaller than Xmath) and Script.

EXACT is an interesting and useful package. It does everything it claims to do, and does it smoothly. I advise reading at least the quick start-tutorial before trying to use the program. Also, make sure you use it with a word processor you're accustomed to using. Trying to learn *EXACT* and a word processor at the same time could be discouraging.

I wrote this review with *WordPerfect* and am not really familiar enough with it yet to say that I have mastered it. One of the ways I chose to make full use of *WordPerfect* was to use Superkey to provide me with mnemonic key sequences for everything. Unfortunately, *EXACT* rendered most of them useless, so I had to keep looking in the manual for commands.

This brings up one of the few problems I had with *EXACT*: For some reason, it doesn't seem to like *WordStar*; at least not my version of *WordStar*. When I issue the print command, the whole thing just locks up. I tried it on two computers and two printers with the same results. The manual discusses some of the special problems concerning use with quite a few word processors and provides solutions. *WordStar* is not mentioned.

Overall, I like *EXACT*. The documentation is good and the output, even on an inexpensive printer like the LX-80 is truly impressive. Make no mistake though, *EXACT* is a specialized program for people who need its special features. It is not user friendly. That is no criticism. I would rather spend some time learning how to use a package properly than to be forced through a dozen or so menus before I can start work.

If you need the features *EXACT* has to offer, it is certainly worth looking into.

(Technical Support Software Inc., P.O. Box 289, Chestnut Hill, MA 02167; 617-734-4130, \$475)

— Jim Pile

FastScreen

Give your Sanyo MBC-550/555 a faster screen with FastScreen.

Our *FastStar* program solved the slow screen problem for users of *WordStar*. Now *FastScreen* does the same for most other programs as well. *WordStar*, *CalcStar*, *EasyWriter*, *DataStar*, *BASIC*, *DOS* commands, and most other programs will all do screen output so much faster you may think you have a new computer. And with *FastScreen* you don't have to give up color to get faster screen output.

FastScreen speeds up screen output on Sanyo MBC-550/555 computers by a factor of up to 15 times (1500%). The speed improvement varies from program to program, but for most programs you can expect screen output to be 2 to 3 times faster. These numbers are measured for such typical screen operations as writing a whole or partial page of text to the screen, displaying a menu, etc. About the only screen operations that *FastScreen* won't speed up are graphics. How can *FastScreen* do this? *FastScreen* completely takes over the job of writing characters to the screen, and uses very highly optimized software routines to get the job done much faster.

FastScreen is simple to install and use. *FastScreen* also provides an ASCII print screen capability, and a ramdisk program. *FastScreen* requires MS-DOS 2.11, and is not for use with the video board.

FastScreen costs only \$25, including first-class postage. (Outside North America add \$3 for airmail postage. NJ residents add \$1.50 sales tax.) To order send check or money order to:

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Little Falls, NJ 07424

FastStar users: upgrade to *FastScreen* for only \$15. Return original label from *FastStar* distribution disk to get upgrade price.

ABOUT THE ONE-LINER CONTEST

The guidelines for the SOFT SECTOR One-Liner Contest are as follows:

Begin the program with a line number and end it in a single line. Anything else goes. Entries will be accepted in either Sanyo BASIC or GW-BASIC. Please include a printed listing, a title for the program and a short explanation of what it does.

Send your entry to:
The SOFT SECTOR One-Liner Contest
P.O. Box 385
Prospect, KY 40059

Winners of the one-liner contest will receive a copy of SOFT SECTOR ON DISK for the month in which their entry is published.

One Liner

THE MAGIC BOX

This program was written to introduce very young children to the computer. It should be particularly effective with a color monitor.

The program draws an array of graphics characters on the screen in random colors. When the child presses a key, the screen is redrawn with a new combination of characters and colors.

For older toddlers, you may want to change the graphics characters to alphabetic ($K = \text{INT}(\text{RND} * 26) + 65$) or numeric ($K = \text{INT}(\text{RND} * 10) + 48$).

```
1 X=INT(8*RND):COLOR,X:CLS:A=50:  
D=20:FOR I = 1 TO 3:FOR J= 1 TO  
3:C=INT(RND*8):K= INT(RND*15)+1:  
SYMBOL(A,D),CHR$(K),7,6,C:A=A+23  
5:NEXT J:A=50:D=D+60:NEXT I:S=IN  
T(RND*255)+1:A$=INPUT$(1):IF A$<  
>" THEN OUT &H38,S:GOTO 1
```

Lynn Samuels
Walsenburg, CO

Sanyo Template Maker

Sanyo BASIC and GW-BASIC

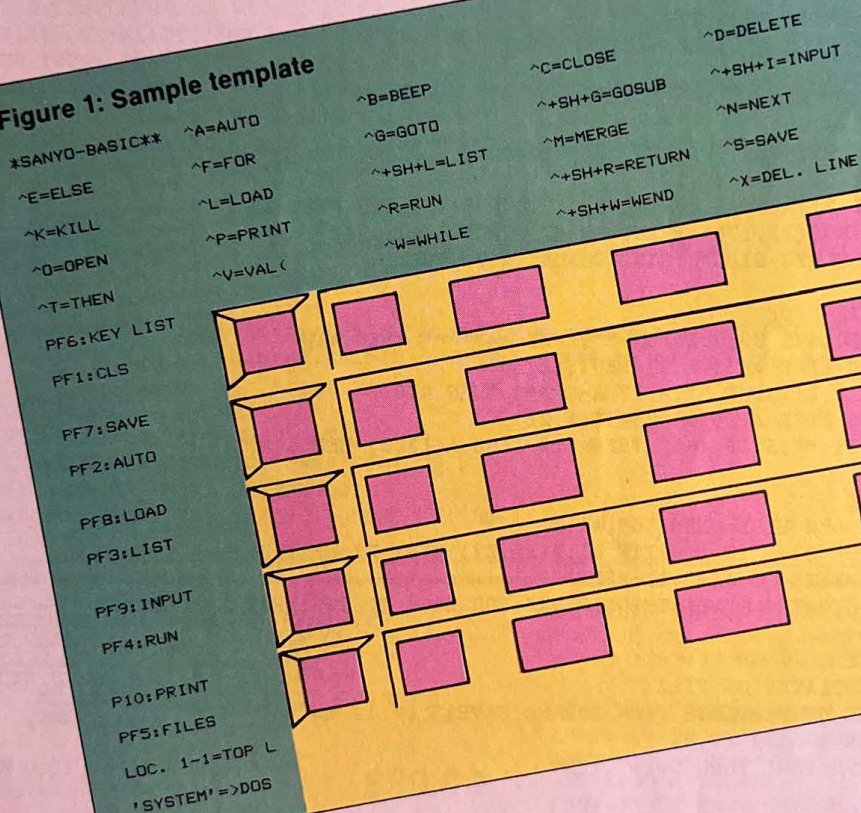
By Edward Kerns

Many of us do not use all of the special features of our software packages because we forget the keywords or simple keystrokes to invoke a function. We could jot down notes to hang on the monitor or wall, but this becomes messy after a while. We could pay many dollars for keyboard overlay

erly in either Sanyo or GW-BASIC. A template is printed which fits across the top left of the MBC-550/555 keyboard, down the left side of the function keys and is held in place by a cutout that fits snugly over the function keys.

There are 27 fields which are 14 characters long for notes about a given pro-

Figure 1: Sample template



templates that are preprinted and not necessarily suited to our individual needs. However, the best solution is to customize our own templates that fit neatly on our keyboards.

That's exactly what TEMPLATE.BAS will do. The program will function prop-

gram, and 10 fields which are 10 characters long for notes about the function keys.

When creating the template you will see, onscreen, a graphics representation of the template and you can place your notes in any of the fields you wish. The new template is then stored on disk and can be called up at any time for printing or editing. Old templates may be deleted. After you print your template, just cut along the dotted lines and lay it on your keyboard.

Ed Kerns holds a master's degree in chemistry and works in pharmaceutical research. He may be contacted at 10428 Kristopher Ct., Evansville, IN 47712.

The listing: TEMPLATE.BAS

```

10 'SANYO TEMPLATE MAKER-BY EDWARD KERNS-COPYRIGHT 12/05/85
20 DEFSTR A-Y:DEFINT Z:DIM A(17,5)
25 OPEN "O",#1,"NULL.TEM":WRITE #1,"T":CLOSE:'DELETE THIS LINE AFTER FIRST RUN
30 'MAIN MENU
40 CLS:PRINT"*SANYO TEMPLATE MAKER* --- MAIN MENU":PRINT
50 PRINT"1. CREATE TEMPLATE":PRINT"2. PRINT TEMPLATE"
60 PRINT"3. EDIT TEMPLATE":PRINT"4. DELETE TEMPLATE":PRINT"5. QUIT"
70 PRINT:PRINT"ENTER OPTION: ";
80 I=INKEY$:IF I="" THEN 80 ELSE ON VAL(I) GOSUB 100,540,760,940,1010
90 GOTO 40
100 'SUB CREATE TEMPLATE
110 PRINT"CREATE TEMPLATE":FOR Z4=1 TO 200:NEXT Z4
120 GOSUB 160:GOSUB 220:'DRAW & INPUT TEMPLATE-TOP
130 GOSUB 280:GOSUB 350:'DRAW & INPUT TEMPLATE-SIDE
140 GOSUB 480:GOSUB 420:'NAME & SAVE TEMPLATE
150 RETURN
160 'SUB DRAW TEMPLATE-TOP
170 CLS:FOR Z1=1 TO 5:FOR Z2=1 TO 5
180 LOCATE Z1*2-1,Z2*16-15:PRINT STRING$(14,176)
190 NEXT Z2:NEXT Z1
200 LOCATE 12,1:PRINT"TEMPLATE-TOP":PRINT:PRINT:GOSUB 1050: 'HELP
210 RETURN
220 'SUB INPUT TEMPLATE-TOP
230 FOR Z1=1 TO 5:FOR Z2=1 TO 5:LOCATE Z1*2-1,Z2*16-15
240 INPUT "",A:IF A="***" THEN 270
250 IF A="" THEN 260 ELSE A(Z1,Z2)=LEFT$(A,14)
260 NEXT Z2:NEXT Z1
270 RETURN
280 'SUB DRAW TEMPLATE-SIDE
290 DATA PF6,PF1,PF7,PF8,PF3,PF9,PF4,PF5,,,
300 CLS:RESTORE 290:FOR Z3=1 TO 10
310 LOCATE Z3,1:READ B:PRINT B:PRINT " ";STRING$(10,176):NEXT Z3
320 PRINT:PRINT STRING$(21,176):PRINT:PRINT STRING$(21,176)
330 PRINT:PRINT "TEMPLATE-SIDE":PRINT:GOSUB 1050: 'HELP
340 RETURN
350 'SUB INPUT TEMPLATE-SIDE
360 FOR Z3=1 TO 10:LOCATE Z3,5:INPUT "",A:IF A="***" THEN 410
370 IF A="" THEN 380 ELSE A(Z3+5,1)=LEFT$(A,10)
380 NEXT Z3:LOCATE 12,1:INPUT "",A:IF A="***" THEN 410
390 IF A="" THEN 400 ELSE A(16,1)=LEFT$(A,21)
400 LOCATE 14,1:INPUT "",A:IF A="" THEN 410 ELSE A(17,1)=LEFT$(A,21)
410 RETURN
420 'SUB SAVE TEMPLATE
430 IF T="***" THEN 470 ELSE OPEN "O",#1,T
440 FOR Z1=1 TO 5:FOR Z2=1 TO 5:WRITE #1,A(Z1,Z2):NEXT Z2:NEXT Z1
450 FOR Z3=6 TO 17:WRITE #1,A(Z3,1):NEXT Z3
460 PRINT"FINISHED STORING TEMPLATE ON DISK":FOR Z4=1 TO 200:NEXT Z4:CLOSE
470 RETURN
480 'SUB NAME TEMPLATE
490 GOSUB 1020: 'TEMPLATES ON FILE
500 INPUT"ENTER NAME OF TEMPLATE (*** FOR NO SAVE):",T:IF T="***" THEN 530
510 IF LEN(T)>8 THEN T=LEFT$(T,8)
520 IF RIGHT$(T,4)<>".TEM" THEN T=T+".TEM"
530 RETURN
540 'SUB PRINT TEMPLATE
550 PRINT"PRINT TEMPLATE":FOR Z4=1 TO 200:NEXT Z4
560 GOSUB 1020: 'TEMPLATES ON FILE
570 INPUT"ENTER TEMPLATE TO PRINT (*** TO EXIT): ",T:IF T="***" THEN 590
580 GOSUB 1080:GOSUB 600: 'LINE-PRINT TEMPLATE
590 CLOSE:RETURN
600 'SUB LINE-PRINT TEMPLATE
610 LPRINT STRING$(80,"-"):FOR Z1=1 TO 5:FOR Z2=1 TO 5
620 LPRINT A(Z1,Z2)+STRING$(16-LEN(A(Z1,Z2)),32);:NEXT Z2:LPRINT:LPRINT:NEXT
630 RESTORE 290:D=" !"+STRING$(6,"-")+!"!"+STRING$(2,32)+"!"
640 E=STRING$(15,32)+"!"+STRING$(6,32)+"!"+STRING$(2,32)+"!"
650 F=" !"+STRING$(6,32)+"!"+STRING$(2,32)+"!"
660 G=STRING$(3,32)+"!":H=STRING$(25,32)+"!"
670 READ B:LPRINT B;";":A(6,1);STRING$(10-LEN(A(6,1)),32);D;STRING$(53,"-")

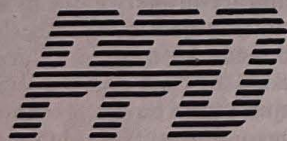
```



```

680 LPRINT E:FOR Z3=7 TO 14:READ B
690 IF INSTR("PF7,PF8,PF9,P10",B)>0 THEN LPRINT E
700 LPRINT B;"":A(Z3,1);STRING$(10-LEN(A(Z3,1)),32);F
710 LPRINT E:NEXT Z3
720 READ B:LPRINT B;"":A(15,1);STRING$(10-LEN(A(15,1)),32);D:LPRINT H
730 FOR Z3=16 TO 17:LPRINT A(Z3,1);STRING$(22-LEN(A(Z3,1)),32);G:LPRINT H
740 NEXT Z3:LPRINT STRING$(25,"-");"!":LPRINT:LPRINT"*CUT ALONG LINES*"
750 RETURN
760 'SUB EDIT TEMPLATE
770 PRINT"EDIT TEMPLATE":FOR Z4=1 TO 200:NEXT Z4
780 GOSUB 1020: 'TEMPLATES ON FILE
790 INPUT"ENTER TEMPLATE TO EDIT (** TO EXIT): ",T
800 IF T="***" THEN 850 ELSE GOSUB 1080: 'GET TEMPLATE
810 GOSUB 160:GOSUB 860:GOSUB 220: 'DRAW, LIST AND INPUT TEMPLATE-TOP
820 GOSUB 280:GOSUB 900:GOSUB 350: 'DRAW, LIST AND INPUT TEMPLATE-SIDE
830 LOCATE 22,1:INPUT "SAVE CHANGES (Y/N)? ",Y:IF Y<"Y" THEN T="***"
840 LOCATE 23,1:GOSUB 420: 'SAVE TEMPLATE
850 RETURN
860 'SUB LIST TEMPLATE-TOP
870 FOR Z1=1 TO 5:FOR Z2=1 TO 5:LOCATE Z1*2-1,Z2*16-15:PRINT A(Z1,Z2)
880 NEXT Z2:NEXT Z1
890 RETURN
900 'SUB LIST TEMPLATE-SIDE
910 FOR Z3=6 TO 15:LOCATE Z3-5,5:PRINT A(Z3,1):NEXT Z3
920 FOR Z3=16 TO 17:LOCATE 2*Z3-20,1:PRINT A(Z3,1):NEXT Z3
930 RETURN
940 'SUB DELETE TEMPLATE
950 PRINT"DELETE TEMPLATE":FOR Z4=1 TO 200:NEXT Z4
960 CLS:GOSUB 1020: 'TEMPLATES ON FILE
970 INPUT"ENTER TEMPLATE TO DELETE (** TO EXIT): ",T:IF T="***" THEN 1000
980 PRINT:IF RIGHT$(T,4)<>".TEM" THEN T=T+".TEM"
990 KILL T:PRINT "TEMPLATE: ";T;" HAS BEEN DELETED":FOR Z4=1 TO 500:NEXT Z4
1000 RETURN
1010 PRINT"QUIT":END
1020 'SUB TEMPLATES ON FILE
1030 CLS:PRINT:PRINT"TEMPLATES ON FILE":PRINT:FILES "*.TEM":PRINT
1040 RETURN
1050 'SUB HELP
1060 PRINT"help: enter items in fields followed by carriage return":PRINT"
hit carriage return for no change":PRINT" enter *** to exit, no change"
1070 RETURN
1080 'SUB GET TEMPLATE
1090 IF RIGHT$(T,4)<>".TEM" THEN T=T+".TEM"
1100 OPEN "I",#1,T:FOR Z1=1 TO 5:FOR Z2=1 TO 5
1110 INPUT #1,A(Z1,Z2):NEXT Z2:NEXT Z1
1120 FOR Z3=6 TO 17:INPUT #1,A(Z3,1):NEXT Z3:CLOSE
1130 RETURN

```



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SOFT TALK



The following products have recently been received by SOFT SECTOR, examined by our magazine staff and approved for the *Soft Sector Seal of Certification*, your assurance that we have seen the product and have ascertained that it is what it purports to be.

A-OK VIDEO BOARD is a hardware add-on that helps make your Sanyo 555 more IBM-compatible. It is fully compatible with the A-OK Board and supports TTL monitors. This board also has a port for a mouse or light pen.

The A-OK Video Board comes standard with the X-Bord550, which is designed for extensive expansion. The A-OK Video Board is the first family of enhancements to the MBC-550/555 series based on the X-Bord550. The video board uses one of the X-Bord's three slots, leaving another open for an A-OK hard disk and the third for an A-OK multifunction board — the MF550.

The A-OK Video Board comes with no software except for changes in FORMAT and DISKCOPY to support the NEC

V20. It is currently available for \$185 from A-OK Computers, 816 Easley St., Suite 615, Silver Spring, MD 20910; (301) 585-5105.

* * *

BATTLE GROUND is a two-player, World War II-style, tactical ground combat game. It employs animated graphics, sound and many other features. This game has a variety of options, ensuring that no two battles will be exactly alike. Also included with *Battle Ground* are two arcade games, *Zap'Em* and *Seawolf*. All three games are accessed from a colorful menu and will provide hours of entertainment.

Battle Ground requires 256K and is currently available for \$29.95, \$3 S/H from MVP Software, 1035 Dallas SE, Grand Rapids, MI 49507; (616) 245-8376.

* * *

FASTSCREEN is a utility that speeds screen output on the Sanyo 555 by a factor of up to 15 times. Speed improvement varies from program to program, but for most you can expect output to be two to three times faster.

FastScreen supports color and provides an ASCII print screen capability and a RAM disk program.

FastScreen requires DOS 2.11 and is currently available for \$25 from PT Software, 7-A Hopson Avenue, Little Falls, NJ 07424; (201) 890-0656.

* * *

SERENDIPITY SYSTEMS is now publishing books and magazines on IBM-compatible disks. The first releases include one magazine *The Byten Word*, and two novels, *Baby April* and *The Deer Hunters*.

Writers who would like to submit articles or books for publication should send an SASE for a free copy of Serendipity Systems' Writer's Guide. Also, a special fiction sampler disk, featuring excerpts from *Baby April* and *The Deer Hunters* and several other novels is now available for \$4.

Future single-disk publications will be priced at \$6 per disk. Multiple disk publications will be priced at \$5 per disk. Quantity discounts will be available. To order disks, or for more information, contact: John Galuszka, Serendipity Systems, P.O. Box 140, San Simeon, CA 93452.

* * *

SHERLOCK'S HOME is a murder-mystery game in which you have to find, by process of elimination, Mr. Sherlock's murderer, the weapon used and the motive. Clues are obtained by moving from room to room and questioning the five suspects. After each question, you are prompted to solve the case but are given the opportunity to obtain more clues.

Sherlock's Home is currently available for \$14.95 from Dougherty Enterprises, 3314 33rd Way, W. Palm Beach, FL 33407; (305) 683-3347.

* * *

The *Seal of Certification* program is open to all manufacturers of products for Sanyo MBC-550/555, 675, 775 and 885 computers, regardless of whether they advertise in SOFT SECTOR.

By awarding a *Seal*, the magazine certifies the product does exist — that we have examined it and have a sample copy — but this does not constitute any guarantee of satisfaction. As soon as possible, these hardware or software items will be forwarded to SOFT SECTOR reviewers for evaluation.

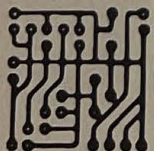


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Customizing

Your

BASIC

PF Keys

Programming in BASIC on the Sanyo MBC-550/555 is quite easy, and is greatly enhanced by the optional use of single and combination keystrokes for keyboard input of BASIC instructions and functions. Figure 1 shows the available instructions and functions (hereafter just called functions for the sake of simplicity) that you can enter, simply by pressing the listed key combinations (also see pages 3-2 and 3-3 of the *Sanyo BASIC Reference Manual*, or 3-34 and 3-35 of the *MBC-550 Series User's Guide*). This feature considerably cuts down the time and effort needed to create new BASIC programs. As an example, if you press CONTROL, SHIFT and T, you get TIME\$. If you are a proficient touch typist, it may not help a great deal. If, on the other hand, you are a slow, hunt-and-peck typist, it will make your life much easier.

So What's Wrong?

Someone somewhere slipped up when

Mick McGuire has been writing computer-related magazine articles since 1979 and is familiar with programming on a variety of computer systems. The Sanyo MBC-550/555 is his computer of choice and his work has been featured in SOFT SECTOR on previous occasions. He may be contacted at 2234 George Wythe Rd., Orange Park, FL 32073; (904) 272-5596.

they assigned the BASIC functions to the 20 available Programmable Function (PF) keys. The functions you get when you first call up BASIC is not well thought-out and only 10 keys are configured! Figure 3 shows that only PF1 through PF10 are used, and if you compare them to Figure 1, you'll see that the functions assigned to PF1 through PF10 are already available using the CONTROL + letter (or CONTROL + SHIFT + letter) combinations. Why even use PF keys if they only repeat what is already available?

Fix Your PF Keys

There are several ways to overcome the problems and make the PF keys useful. The least desirable way is to type something similar to KEY 11, "PAINT" 20 times to reassign functions to all the PF keys. This is obviously not a very efficient or enjoyable method. A much better way is to run the program found in Listing 1. This reassigns *your* functions to all 20 keys and creates a KEYS file that can be used later with the command KEY LOAD "KEYS". You may also elect to use the program in Listing 2 to modify the list you are using and/or change the KEYS file. Listing 2 may also be used, by leaving out one line, to modify the original Sanyo PF key list.

Both listings contain many REM statements to explain what most of the program lines do for you. You need not type

By
Mick
McGuire

in any lines not incremented by 10, but it won't hurt anything if you do. Execution is so fast it really does not make any difference either way. Make sure you save each program on disk before running it the first time, as each will eliminate itself from memory after use.

Listing 1

Listing 1 creates a file on your disk named KEYS, which may then be placed on any disk you want using the COPY command. KEYS is used whenever you run BASIC, using the KEY LOAD "KEYS" command. You can customize Listing 1 to suit your own particular needs by changing the functions listed in the data statements found in Line 50; just make sure you have no more or no less than 20 data items. A space should be left at the tail end of most BASIC commands used as a PF function. This provides the one-space separation required between most commands in a program line. Look at Line 50 in Listing 1 and you will see what I mean.

The program, when run, shows a PF key list onscreen prior to deleting itself with

Line 80. If you use one particular disk for BASIC programming, you may want to create an AUTOEXEC.BAT file that will automatically put you into BASIC and execute KEY LOAD "KEYS" or load and run NEWKEYS.BAS when you first boot your system. The batch file may be a very simple (BASIC "NEWKEY" or BASIC "KEY LOAD") MS-DOS command created with EDLIN.COM, and is strictly optional. It is by no means necessary. Figure 2 shows a list of PF key functions that my particular version of Listing 1 creates.

Listing 2

Listing 2 provides you with a means of changing any PF key(s) you select, and modifies the KEYS file on your disk to reflect your new changes. If you like the default functions Sanyo provides, and/or you don't want to use Listing 1, you can use this program by itself to create a modified KEYS file from the original Sanyo list. Simply eliminate Line 20 before running it. After using it the first time, load Listing 2 back into memory, type Line 20 back into the program, and

save this version on disk. This program, with Line 20 back in, now allows subsequent changes to be made to your already modified and saved KEYS file. If you had left Line 20 out permanently, the key list modified would always be Sanyo's 10-key version. Confused? Just try it and you'll see what I mean. Listing 2 is normally used to modify an existing KEYS file and can be used with or without Listing 1.

I prefer to run the program found in Listing 1 after entering BASIC instead of using the KEY LOAD "KEYS" command. When I do, I automatically get a current PF key list onscreen without resorting to the KEY LIST command. Either way, the end result is the same; you will have the new list in memory ready for your use.

If I plan on using an unusual function or command several times throughout a program, I use Listing 2 to change the key list to cut down on typing time. I find that these BASIC programs for PF key modifications are more flexible and, for the most part, easier to use and understand than machine language programs that perform the same functions.

KEY STROKE: INSTRUCTION:

^ A	AUTO	^ L	LOAD1
^ SHIFT A	AND	^ SHIFT L	LIST
^ B	BEEP	^ M	MERGE
^ C	CLOSE	^ SHIFT M	MID\$(
^ SHIFT C	CLS	^ N	NEXT
^ D	DELETE	^ SHIFT N	NOT
^ SHIFT D	DIM	^ O	OPEN "
^ E	ELSE	^ SHIFT O	ON
^ SHIFT E	END	^ P	PRINT
^ F	FOR	^ SHIFT P	PUT
^ SHIFT F	FIX(^ R	RUN
^ G	GOTO	^ SHIFT R	RETURN
^ SHIFT G	GOSUB	^ S	SAVE"
^ H	HEX\$(^ SHIFT S	STEP
^ I	IF	^ T	THEN
^ SHIFT I	INPUT	^ SHIFT T	TIMES\$
^ K	KILL "	^ U	USING
^ SHIFT K	KEY	^ V	VAL(
^ L	LOAD "	^ SHIFT V	VARPTR(
^ SHIFT L	LIST	^ W	WHILE
^ SHIFT K	KEY	^ SHIFT W	WEND

Figure 1: Existing words

PF 1:	CHR\$(PF 1:	CLS?
PF 2:	CIRCLE	PF 2:	AUTO
PF 3:	COLOR	PF 3:	LIST
PF 4:	DATA	PF 4:	RUN?
PF 5:	GCURSOR	PF 5:	FILES?
PF 6:	GET	PF 6:	KEY LISTSAVE "
PF 7:	INKEY\$	PF 7:	SAVE "
PF 8:	LEN	PF 8:	LOAD "
PF 9:	LINE	PF 9:	INPUT
PF 10:	LOCATE	PF 10:	PRINT
PF 11:	PAINT	PF 11:	
PF 12:	READ	PF 12:	
PF 13:	REM	PF 13:	
PF 14:	RESTORE	PF 14:	
PF 15:	RND	PF 15:	
PF 16:	STRING\$	PF 16:	
PF 17:	SYMBOL	PF 17:	
PF 18:	VIEW	PF 18:	
PF 19:	WIDTH	PF 19:	
PF 20:	WINDOW	PF 20:	

Figure 2: New list

Figure 3: Old list

Listing 1: KEYCHANG.BAS

```

5 REM THIS PROGRAM BUILDS A PF KEY FILE ON DISK WHICH CAN BE RECALLED BY USING K
  EY LOAD "KEYS" FROM BASIC
10 FOR T=1 TO 20
15 REM READS ITEMS IN LINE 50 AND ASSIGNS THEM TO A$, EACH IN TURN
20 READ A$
25 REM NEXT LINE STORES KEY NUMBER AND STRING IN MEMORY
30 KEY T,A$
35 REM GOES BACK TO LINE 10 WITH NEXT INCREMENT OF T, UNTIL 20 IS REACHED, THEN
  IT ALLOWS PROGRAM TO PASS THROUGH 50 TO LINE 60
40 NEXT T

```



```

45 REM MUST HAVE TWENTY DATA ITEMS IN THE NEXT LINE
50 DATA CHR$(,CIRCLE ,COLOR ,DATA ,G_CURSOR ,GET ,INKEY$ ,LEN ,LINE ,LOCATE ,PAIN
T ,READ ,REM ,RESTORE ,RND ,STRING$ ,SYMBOL ,VIEW ,WIDTH ,WINDOW
55 REM NEXT LINE GIVES YOU A SCREEN LIST OF PF KEYS 1-20
60 KEY LIST
65 REM NEXT LINE SAVES WHAT YOU HAVE ASSIGNED TO PF-1 THROUGH PF-20 IN A DISK FI
LE NAMED "KEYS". SEE LINE 5.
70 KEY SAVE "KEYS"
75 REM NEXT LINE WIPES OUT THIS PROGRAM AND RETURNS YOU TO BASIC COMMAND MODE
80 NEW

```

Listing 2: LIST-1.BAS

```

5 REM THIS PROGRAM ALLOWS CHANGE TO KEYS FILE AND PF KEY ASSIGNMENTS
10 CLS
15 REM NEXT LINE LOADS IN "KEYS" FILE, GIVING YOU 20 PF KEYS
20 KEY LOAD "KEYS"
30 PRINT "THIS PROGRAM ALLOWS YOU TO CHANGE ANY PF KEY"
35 REM NEXT LINE LISTS 1-20 PF KEYS FOR YOU, ON SCREEN
40 KEY LIST
45 REM NEXT LINE ALLOWS YOU TO PICK A PF KEY TO CHANGE
50 INPUT "KEY TO RE-PROGRAM";NK
55 REM NEXT LINE ALLOWS ONLY NUMBERS 1 THROUGH 20 TO BE SELECTED
60 IF NK>20 OR NK<1 THEN 50
65 REM NEXT TWO LINES FOR NEW ASSIGNED STRING SELECTION
70 PRINT "NEW STRING TO BE ASSIGNED TO PF ";NK
80 INPUT NK$
85 REM NEXT LINE PUTS NEWLY ASSIGNED PF KEY IN MEMORY
90 KEY NK,NK$
95 REM NEXT LINE SAVES "KEYS" FILE WITH NEWLY ASSIGNED PF KEY
100 KEY SAVE"KEYS"
110 KEY LIST
115 REM REST OF PROGRAM ALLOWS ANOTHER CHANGE OR WIPE-OUT OF PROGRAM
120 INPUT "MORE OR QUIT (M OR Q)";Z$
130 IF Z$="Q" OR Z$="q" THEN NEW
140 RUN

```

Listing 3: LIST-2.BAS

```

5 COLOR 0,3
10 CLS
20 KEY LOAD "KEYS"
30 PRINT "THIS PROGRAM ALLOWS YOU TO CHANGE ANY PF KEY"
40 KEY LIST
50 INPUT "KEY TO RE-PROGRAM";NK
60 IF NK>20 OR NK<1 THEN 50
70 PRINT "NEW STRING TO BE ASSIGNED TO PF";NK
80 INPUT NK$
90 KEY NK,NK$
100 KEY SAVE"KEYS"
110 KEY LIST
120 INPUT "MORE OR QUIT (M OR Q)";Z$
130 IF Z$="Q" OR Z$="q" THEN NEW
140 RUN

```

Listing 4: NEWKEY.BAS

```

5 COLOR 0,3
10 FOR T=1 TO 20
20 READ A$
30 KEY T,A$
40 NEXT T
50 DATA CHR$(,CIRCLE ,COLOR ,DATA ,G_CURSOR ,GET ,INKEY$ ,LEN ,LINE ,LOCATE ,PAIN
T ,READ ,REM ,RESTORE ,RND ,STRING$ ,SYMBOL ,VIEW ,WIDTH ,WINDOW
60 KEY LIST
70 KEY SAVE "KEYS"
80 NEW

```


INPUT OUTPUT

By Mark Zeiger

Q. The Sanyo Operator's Guide shows CONTROL-SHIFT-PF1 as equal to the IBM ALT key. However, it doesn't work on my MBC-550-2 with DOS 2.11. Any comments?

Incidentally, if that did work, it would render the ASCII printer utility inoperable. Conversely, the ASCII printer utility would interfere with the CONTROL-SHIFT-PF1 used as an ALT key in some programs.

W.E. Marr
Islington, Ontario

A. As far as I know, there is no MS-DOS function that uses the ALT-F1 combination.

The ALT key is usually used by application programs.

The ALT key can work in two ways. The first is when it is used in combination with another key. For instance, if ALT-A is pressed (i.e., the ALT key in conjunction with the 'A' key), two things may happen:

1. If an MS-DOS input function is called, the first character returned is the NULL character (Binary 0). When the DOS program sees the NULL as the input, it should immediately make a second call to the DOS input

function. The code returned then would be 1E Hex, which is the scan code for the 'A' key.

2. If BIOS Interrupt 16H is used, then the routine returns with the character code in the AL register (NULL in the case of ALT-A since this is not an ASCII character), and the scan code in AH (1E Hex in the case of ALT-A).

Both of these methods will work with the MBC-555 series. To emulate the ALT-A keystroke, press the CONTROL-SHIFT-A keys. (See Figure 1.)

Another way that a program meant to run on the IBM PC or compatible may check the status of the ALT key, is by looking at the status of the keyboard flag which is located at 0:0417H. If Bit 2 is set, then the ALT key is pressed. This byte may be examined directly or by using INT 16H with AH = 2. In this case, the contents of 0:417H are returned in the AL register.

Figure 1: Implementing MS-DOS and BIOS calls

Using MS-DOS calls:

```

READ:  MOV  AH,6           ;MS-DOS Console I/O Function
        MOV  DL,0FFH       ;Signify input
        INT  21H          ;MS-DOS Function call
        JNZ  READ         ;If zero flag not set, then no input
        CMP  AL,0          ;Else character returned in AL Register
        JNE  NOT_FUNCNT   ;If AL not 0 then not special key sequence
        MOV  AH,6         ;Else special key, therefore do another read
        MOV  DL,0FFH
        INT  21H
        CMP  AL,1EH       ;See if scan code is from 'A' key
        JE   ALT_A
    
```

Using BIOS calls:

```

        MOV  AH,0         ;Keyboard read subfunction. Will wait
        INT  16H          ;Until character is read
        CMP  AL,0         ;Check if character code not ASCII
        JNE  NOT_FUNCNT
        CMP  AH,1EH       ;Check scan code
        JE   ALT_A
    
```

Q. I have IBM's Display Write 3 running on my system utilizing the Video RAM Board. The problem is that the printer device name for the IBM parallel port is LPT1. Display Write 3's printer setup routine only allows you to select LPT1, 2 or 3 as your printer ports. Do you know of a way that I can configure Display Write 3 to look for the printer device name PRN, or do you know of any other way to get Display Write 3 to print on my system?

Also, would you please tell me whether or not I could install a Bernoulli box on my system? I've read that you can't install a hard drive in a Sanyo that has a video

board because the board occupies the same pin connectors that the hard drive uses.

If a Bernoulli box utilizes the same pin connectors as a hard drive, would it work on my system if I removed the video board? Where can I purchase a Bernoulli box?

Brent Helms
Miami, FL

A. There is a way to change the IO.SYS device driver name to something else other than PRN. You must first find the device driver header for the printer driver in MS-DOS. In the normal Sanyo IO.SYS it is located at 0:82E Hex. You will have to search for the string PRN using DEBUG to find the location in DS-DOS/Plus (e.g., 50:700 1000 PRN at the DEBUG prompt). You can either patch the name using DEBUG's E function or use the program found in Figure 2. Remember that the name must be left-justified starting at Byte 8 of the device header and must be filled with blanks to make a name of exactly eight bytes.

As for the Bernoulli box, it needs an IBM PC-compatible slot for the interface board. The Sanyo MBC-555 series does

not accept PC-compatible boards and we cannot guarantee that it would be easy to build an interface for the Bernoulli box to the Sanyo.

Q. I would like to know more about assembly language programming. Can it be done on the Sanyo MBC 555-2? If so, what additional software, if any, do I need and where can I get it? Where can I learn the programming techniques?

I really have enjoyed and benefited from your magazine and would appreciate your suggestions in this area.

Thank you for your consideration.

Timothy A. Byers
Dallas, TX

A. Assembly language programming can be done on any computer. In fact, assembly language is just about the lowest level language that can be used on any computer. It is the language that is used to write the computer's operating system and BIOS.

There is really no book that explains how to use assembly language on the MBC-555 series, but there are many

books that explain programming on the IBM PC. Most of the books can be found in the computer section of any large bookstore.

These books will start you off by explaining the actual working of the 8088 CPU (which is the same for any system whether IBM compatible or not). The book should then cover the topic of using the MS-DOS operating system, which again does not depend upon IBM compatibility. Finally, the book should cover using the BIOS. Here, you will find that some of the procedures described will work on the MBC-555 and some will not. This is because the MBC-555 emulates some, but not all, of the IBM BIOS functions in RAM. Part of the fun of learning assembly language will be to see which IBM BIOS calls do work correctly on the 555.

The MS-DOS assembler can be used with the MBC-555. For a text editor, you can use WordStar in the non-document mode.

Q. I am in desperate need of a patch for the Sanyo MBC-555-2 RS-232 serial port.

My problem is when telecommunicating with another computer or BBS, I am disconnected when I try to download/upload. Is there a "fix" for this problem?

My computer is the Silver Fox. I have the Video RAM Board, 256K and two quad-density disk drives (TEAK 55F), 800K each. My modem is the U.S. Robotics Password 1200. Taxan RGB 420 color monitor. Quick Switch III by C-Tek Systems, a single button mode switch.

I have the Comtel C400 RS-232 serial port, purchased in March 1985 when I bought my computer.

My DOS is IO.SYS Version 1 Sanyo. Version 2.03 (VB) Copyright 1985, A-OK Computers. The Regular mode DOS is Version 2.04 Copyright 1985 A-OK Computers, MS-DOS 2.11.

John N. Logreco
Los Angeles, CA

Figure 2: Changing the PRN device

; Change PRN device between LPT1 and PRN

```
cseg      segment
          assume  cs:cseg, ds:cseg
          org     100h
start:    mov     al,byte ptr ds:[5dh] ;CHGPRN P changes to PRN
          cmp     al,'P'               ;CHGPRN L changes to LPT1
          je      toprn                ;Get address of correct device
          cmp     al,'L'               ;Name in SI
          je      tolpnt               ;Error if parameter not P or L
          jmp     error
toprn:    mov     si,offset toprnstr
          jmp     short patch
tolpnt:   mov     si,offset tolpntstr
patch:    mov     cx,8                 ;Patch all eight bytes of name
          xor     ax,ax
          mov     es,ax
          mov     di,82eh              ;This address must change if
          cld                          ;PRN not located at 0:82E
          rep movsb
          int     20h
error:    mov     dx,offset errormsg
          mov     ah,9
          int     21h
          int     20h
toprnstr db 'PRN'
tolpntstr db 'LPT1'
errmsg   db 0dh,0ah,'Usage: chgprn x',0dh,0ah
          db 'x = L   Change to LPT1',0dh,0ah
          db 'x = P   Change to PRN',0dh,0ah,'$'
cseg      ends
          end start
```

A. For some reason, the software engineers who wrote the BIOS for the MBC-555 series decided to turn off the DTR signal whenever a disk access takes place. On Hayes modems this causes the modem to drop the line and go into command mode. I am pretty sure that this is the same problem with the U.S. Robotics. Luckily, there is a simple fix. Both modems (Hayes and U.S. Robotics) have a switch that causes the modem to ignore the DTR line and always hold DTR true. On the Hayes, it is Switch 1 and it should be down. You will have to read the documentation for the U.S. Robotics modem to see which switch to use.



BUSINESS Sector



CHARLOTTE & BRIAN STONE
Soft Sector Contributing Editors

Q. I am using EasyWriter, Version 1.3, with my Sanyo MBC-555, and like it very much. I've just finished a book, now off to the publishers, and found one disadvantage; neither the page numbers nor the end-of-page marker appears on the screen, showing up only when printing or when reviewing the whole file. Is there any way to patch in this information?

My printer is a Brother Compactronic typewriter. I've figured out how to use automatic underline in EasyWriter by using a dot command with a user symbol followed by ASCII numbers "27,69;27,82"; the first use of the symbol starts the underline feature, and the second use stops it. User symbols are not available in our WordStar program (Version 1.0). How can I activate the underline in WordStar?

Sam Hinton
LaJolla, CA

A. You cannot patch EasyWriter to show page or line numbers, but WordStar does show both page markers and the page number. The page breaks are indicated by a dashed line all the way across the screen, and the Page #, Line # and Column # are indicated at the top of the screen with the name of the file currently being edited. It might be worth switching to WordStar.

There is a built-in underline command in WordStar which is ^PS. This command may or may not function depending on the installation you have chosen. It is possible to output printer control codes other than the ones that are set up within WordStar. This is done by modifying one of the user patch areas, ^PQ, ^PW, ^PE or ^PR. Use the Install program and fill all but the last allowable character space with 00. Next, insert 1Bh (ESCAPE) into the last space. When you insert the control code into your text, it should be done as follows:

This is test text ^PQxxx and it will now be underlined ^PQaaa: xxx stands for the character in the printer manual that turns

on underlining and aaa for the character to turn it off.

The ^PQ is sending the control code ESCAPE to the printer and you will furnish the balance of the information from your printer manual. You must insert the ^PQ every time you need ESCAPE in the series of printer commands.

Q. I am trying to locate DS.INSTALL from Sanyo. Since Sanyo has not responded, perhaps you can furnish a copy of this program for me.

Dan Kubala
Chicago, IL

A. I am sorry, but I cannot send you a copy of DS.INSTALL. First, Sanyo did not purchase and include the DataStar Install program with the MBC-550 series. Second, I do not have it, and if I sent you a copy, that would be bootlegging. I do not know any way for you to acquire it, at present, short of buying a complete copy of DataStar for the IBM which will get you the DataStar Install program.

If you would advise what it is you want to do, there may be another way to solve your problem without the Install program.

Reader Contribution

In the July issue of SOFT SECTOR, on Page 58, there was a question about configuring EasyWriter II for the Okidata 92 printer. Your answer was right. Mr. Bleikamp did not fill in the printer configuration table properly.

The Okidata Users Tip #3093 manual has separate listings for various Okidata printers, such as:

1. Pacemark 2350/2410
2. Microline 92/93 and 84 Step 2
3. IBM Plug 'N Play ML92/93
4. Microline 82A/83A.

You have to use the System Functions Menu of EasyWriter II and select #7 Change Printer Selection, printer/or port #3. Next, at System Functions Menu #9, configure printer Type B.

If you have the IBM Plug 'N Play kit, follow each step (#3) for your particular model Okidata printer on each page as you go along. If you don't have the IBM Plug 'N Play kit, then follow all of the steps (#2) for the Okidata Microline printer.

You cannot follow all of the codes on each page because there are codes for all of the above mentioned Okidata printers. To make it easier, I went through the manual with a red pencil and marked what code sections were for my printer model. Then when you type in your printer codes on the EasyWriter II printer configuration table, you will not make any mistakes.

Hitting the asterisk key (*) at your last entry on each line will remove the rest of the codes already listed for the Epson printers. My Okidata Microline 93 printer uses the same codes as the 92, and it works perfectly.

I must say, if you have WordStar 3.3, EasyWriter II is inferior, slow and cumbersome, and has too many confusing key-combinations and page, paragraph and sentence modes. If you are in the "page" mode, pressing the delete key will delete a whole page instead of just a character! If you are lucky enough to still be on that same page, you can recover the lost text. But if you move to the next page, that whole page of text is gone to computer heaven. After that happened to me several times I said, "I've had it," and went back to good old reliable WordStar 3.3 and am happy that I did.

John N. Logreco
Los Angeles, CA

Q. I just purchased a Radio Shack (Tandy) Color Ink-Jet Printer (Model CGP-220) for \$199.95 (they used to be

\$599). I imagine they are "dumping" the entire line. My question is: Does anyone have any past experience with this printer coupled with a Sanyo 555? If so, what are the problem areas (disadvantages) and what are the good points (advantages)? My installation consists of a Sanyo 555 with two 360K Shugart drives, 256K RAM, a Video RAM Board, and a Zenith ZVM-135 color monitor. For the last two years, my printer has been a Brother Correctronic 50 typewriter with an IF-50 interface, and it has worked beautifully with my Sanyo. However, being a daisy wheel typewriter it will not print graphics. I have been wanting to get a printer that could print the graphics my Sanyo can produce.

The Color Ink-Jet Printer has a parallel interface. I am enclosing a sample of one of my WordStar files I printed on it in the Text mode (it also has Bit Image mode and Color-Scan mode) and copies of some of the pages in the manual.

Do you think I made a good buy, or am I getting into more headaches down the road?

LaVega E. Parker
Astoria, OR

A. We would like to pass this question on to our readers since we have no information of our own on this printer. Can anyone furnish some information from past experience? If so, we will be happy to publish it in a future issue.

Q. My question is about shutting off the Sanyo 555-2 after using WordStar. Let's say that I have opened a file to type a letter. Then I save the file and return to the opening menu of WordStar. Now, I want to shut off the computer. Is it OK for me to remove the disks and then shut off the computer? Or is it advisable first to exit from WordStar to the A> prompt before removing the disks and then shutting off the computer?

By the way, I never received an answer to a question about MailMerge that I sent in to you more than a year ago — on June 19, 1985, to be exact. I have enclosed a copy of the letter I sent you on that date.

Robert T. Levine
Greensboro, NC

A. Having worked with computers since the first personal computers became available (which were seldom very reliable), I have always made it a habit to completely exit a program before shutting off the machine. With the first machines and early software, it was possible to leave a file (program) open and, as a result, when you tried to use the program later it would not function. It is not much of an effort to press the 'X' key to completely exit WordStar before removing the disks

and turning off the power. I doubt that not doing so would cause a problem, but since it is so easy to exit, why not do so? The choice is yours and the worst you would have to do is make a new working copy of the program, assuming that you are not using the master disk.

In regards to the copy of your 6/19/85 letter: We did not receive the original, but will try to get you an answer soon.

Q. I have a Sanyo 555-2, with a Silver-Reed 550 daisy wheel printer. When using Dac-Easy Accounting, the manual says to configure the printer for condensed printing. It then says to use one or two code numbers. This has me confused as the Silver-Reed manual appears to require three codes to vary horizontal spacing. I would appreciate any suggestions you might offer. I have enclosed the Dac manual page copies.

Jim Carney
Rowland Hts., CA

A. After reading the three pages of the Dac-Easy Accounting manual, it looks like they have made provisions only to send two characters to the printer for characters per line. You are correct that it would take three sets of characters to set your Silver-Reed EXP-550 printer to 15 pitch. As a result, your only option is to use the switches inside of the front cover of the printer to reset the characters per inch. This is done by turning off the printer, changing switch position #1 of the DIP switch to the ON position from the OFF position (10 pitch). This will set the printer to power up in 15 pitch mode. You will also have to change print wheels to one of 15 pitch. You will then be ready to print up to 197 columns if your software will do so, on 14 $\frac{7}{8}$ -inch wide printer paper.

You must reset the switch with the printer off because this is the only time the internal software looks at the switch settings; otherwise it will have no effect at all.

Q. After reading this column in the SOFT SECTOR May issue, I ordered CorrectStar from Broad Reach. I have been waiting for your patch to make CorrectStar work. When I received my August issue of SOFT SECTOR with your patch, I noticed that it is for the old version of CorrectStar (Version 3.3). This patch is already in CorrectStar Version 3.31 (with a slight address change), but there is something else keeping it from running. Do you have anyone working on a patch for version 3.31?

Concerning the problem Mr. Erickson has with MailMerge, I have also seen this

problem. The only time I have trouble is when I am using the DS-DOS Plus 2.11 operating system. When I use Sanyo's MS-DOS 2.11 operating system I have no problem. I would suggest that Mr. Erickson and anyone else having this problem go back to the stock MS-DOS. Make sure that the following versions of the operating systems show up on your screen when booting up the computer:

IO.SYS v1.00 (C) 2-13-84 Sanyo
MS-DOS Version 2.11
COMMAND v2.11

I talked to Tim Purves (author of DS-DOS Plus) and he said he hasn't found anyone else with this problem other than me.

To find out if the problem is in the operating system, you need to delete any "resident" programs including CONFIG .SYS and reboot your computer. If the problem still exists, it is in the operating system or the WordStar program has been corrupted.

Steven G. Earl
Idaho Falls, ID

A. Thank you for your explanation of the problem with MailMerge and DOS. Also, if you will send a complete copy of CorrectStar Version 3.31, we will try to get it to function correctly and return it with the patch.

Q. I need some help with a problem I have had with my Gemini-10X. I have had the printer for a couple of years and am very happy with it except for one problem: It will not print in elite, except in BASIC. I cannot get the printer to recognize the code in any other program. I have the Sanyo 555-2 and I use EasyWriter II most of the time. I have spent hours trying to get elite to print but it will not. I have used WordStar, put in every code imaginable and still the same results. I use the French accents, compressed, underline, double wide and italics mode, but I cannot get elite.

As I mentioned earlier, I like EasyWriter II very much, but never hear it mentioned in SOFT SECTOR. I have written to IUS to see if there are any updates on EasyWriter II but my letters come back saying no such address. Does the company still exist?

Donald Block
Port-au-Prince, Haiti

A. At this time, I cannot answer your question about printing elite type from your Gemini-10X with WordStar or EasyWriter II because you did not include copies of the printer codes with your letter. If you will send this information and the present switch settings I will try to help.

In regards to your second question: IUS, the company which produced all of the "EASY" software is now called Computer Associates International, Inc., Micro Products Division, 2195 Fortune Drive, San Jose, CA 95131; (408) 942-1727.

READER INPUT

The following information has been furnished by readers who want to share their knowledge and experience with others. All of this information is a result of questions in the August, 1986 issue of *SOFT SECTOR* regarding the Olympia NP Printer series, and Brother Correctronic 50.

Special thanks to Tony Bomford of Australia, who spent a fortune on postage with four letters giving a unique solution and a lot of information. Thanks also to: Laurence N. Streff, Pittsburgh, Pa.; Tom T. Heywood, Glendale, Cal.; Art Fernandez, Glendora, Cal.; and Jorge E. Amador, Forrest Grove, Pa.

I use an Olympia NP printer regularly and find it works installed as an Epson MX with Grafrax or as an Epson LX or RX. (It should work as an Epson without Grafrax also, Ed.). I have used it with a number of word processing programs with success, but not with *WordStar*.

Laurence N. Streff

Having read your August column, I may be able to provide some assistance to answer two of the questions posed. I own both an Olympia NP and a Brother Correctronic 50.

The Olympia NP should be installed in *WordStar* as the "Epson MX80/100, no Grafrax." With the FINE button off (double strike), from the opening *WordStar* menu print the file PRINT.TXT. This will enable a view of some of the available print functions of the Olympia NP, an impressive little printer.

The Brother Correctronic 50 should be installed in *WordStar* as a "backspace standard." There is no problem with any of *WordStar*'s standard print functions. Just buy a lot of cotton for your ears and learn to wait, wait,ZZZZZZZ. It's a little slow.

Art Fernandez

I read your August '86 column about using *WordStar* with the Brother Correctronic 50 Typewriter/Printer and thought I could offer some help.

I have a Brother Executron 65 typewriter, which is identical to the 50 in every respect except that it has some additional features in the typewriter mode. My father has a 50. We can both use the double strike and underline functions without any problems. All that needs to be done is to install *WordStar* for a "Backspace Standard" printer from the *Install* menu. This will tell the printer to backspace for double strike/underlining, instead of adding a carriage return and printing again on the next line.

Since these typewriters are very slow to begin with (about 13 cps), the overstrike function will print at an excruciatingly sluggish pace, but it beats getting double strike on a separate line.

Jorge E. Amador

Thank you for your reply to my letter regarding the Brother Correctronic 50 Typewriter/Printer used with *WordStar*. I have been working on the problem since I first wrote to you and have had some success, which I would like to share.

Underlining: I have installed this in the user-defined area as follows:

Underlining ON	^PQ 18h 45h
Underlining OFF	^PW 18h 52h

Super/Subscript: These were installed per item 'P' carriage roll on Page 3-8 of the *WordStar* installation manual:

Subscript "Roll Up Code"	18h 44h
Superscript "Roll Down Code"	18h 55h

Change Print Pitch: These were installed per item 'Q' on Page 3-9 of the *WordStar* installation manual:

10 Pitch	18h 1Fh 0Dh
12 Pitch	18h 1Fh 0Bh

I am sure this would not have taken me some 18 months to work out if the manuals were written clearly and with some consistency. I find it difficult to match one non-understandable translation from Japanese into English with another Japanese/English translation that is meant to have the same meaning.

Tom T. Heywood

Charlotte Stone, office manager for the Detroit office of the Shaw/Walker Co., has been using a Sanyo computer in her daily work routine since October 1983. Brian Stone has been using a variety of Sanyo computers since May 1983. Both have been involved with computers since their first purchase in July 1978.

One Liner

BI SEARCH

This one-liner does a binary search to find a number you have selected from 1 to 100. The # is entered by the user to be used only as an error trap. You will find that with this range (1 to 100), the computer will always guess the number in seven or less tries. If you understand this program, searching data in the future will be a breeze.

```
1 H=100:L=1:CLS:PRINT "BE FAIR!"
:INPUT "PICK # (1-100)";N:FOR X=
1 TO 7:PRINT :G=INT((H+L)/2):IF
N=G THEN PRINT "# =";G ELSE PRIN
T "(H)IGHER OR (L)OWER THAN";G:A
$=INPUT$(1):IF A$="L" AND G>N TH
EN H=G-1:NEXT X ELSE IF A$="H" A
ND G<N THEN L=G+1:NEXT X ELSE 1
```

Kirk A. Rose
Lebanon, OR

One Liner

YO-YO

My one-liner is called *Yo-Yo*. It draws a yo-yo and makes it go up and down. It is written in Sanyo BASIC. If you want to stop the program, press BREAK.

```
1 CLS:DIM A(675):LINE(320,0)-(32
0,50),7:CIRCLE(320,50),44,,,4,F
:CIRCLE(320,50),24,,,6,F:GET(27
4,0)-(366,74),A:FOR X=1 TO 7:FOR
I=0 TO 73:PUT(274,I),A:NEXT I:F
OR I=73 TO 0 STEP -1:PUT(274,I),
A:NEXT I:NEXT X:LOCATE 24,1:END
```

Phillip Adlam
Wellington, New Zealand

MS-DOS Primer

By Fred Blechman
Soft Sector Contributing Editor

One of the big mysteries for the unsophisticated microcomputer user is the "operating system." A computer must have one to do anything at all. The general purpose of all operating systems is to interface the user with the machine.

The operating system takes care of a multitude of little details that the user need not be concerned with, such as the routing of commands from the keyboard to the screen, printer, disk, and areas of memory set aside as "buffers." It also turns peripherals, lights and electronic switches on and off; controls disk access and retrieval by examining, reading and writing to sectors and tracks on the disk; reads and writes a disk directory; and ad infinitum. Just about everything that goes on "automatically" when you issue a command involves the operating system. It's a real workhorse!

Microsoft's MS-DOS

The Sanyo comes with MS-DOS (Microsoft Disk Operating System), the hands-down most popular operating system for the current generation of so-called 16-bit microcomputers such as the IBM PC, its compatibles and the Sanyo MBC-550 series.

Like other operating systems, MS-DOS has its own vocabulary, procedures and syntax. A dozen or more books have been published describing MS-DOS (and its popular spinoff for the IBM Personal Computer, PC-DOS). These books describe the intimate details and the various intricacies of MS-DOS in far more detail than the average MS-DOS user needs to know.

Frankly, the less you are involved with

traipsing around within the operating system, the safer you are! Innocent errors can cost you all the contents on a disk. You should either become proficient in the use of MS-DOS commands, thus allowing you to do many wonderful things that only programmers can appreciate, or use MS-DOS as little as possible, only as a doorway to your application program.

MS-DOS Versions

MS-DOS has gone through some major revisions. When the Sanyo 550 series was first introduced, MS-DOS 1.25 was supplied. It supported only single-sided drives. This was quickly followed by MS-DOS 2.11, which supports double-sided drives.

This article will discuss only the most common and useful commands of both versions of MS-DOS included with the Sanyo MBC-550 series.

Generally speaking, programs that run with MS-DOS 1.25 will also run with MS-DOS 2.11 — but not always. This is generally referred to as "upward compatibility." Unfortunately, a much smaller percentage of MS-DOS 2.11 programs will run with MS-DOS 1.25. Alas, standardization and interchangeability are still a long way off in the computer world.

MS-DOS Overview

Chapter 4 of your *Sanyo MBC-550 Series User's Guide* (which comes with the computer) gives a good summary of the use and syntax of the more necessary and useful MS-DOS commands. However, it doesn't give you much of an idea of how they fit together as a whole. I'll try to do that here.

Refer to the user's guide for examples and syntax for the commands I don't cover in detail. I see no point in repeating material you already have. My intention is to help guide you through the applications of MS-DOS commands.

System and Non-System Disks

You will frequently hear the terms "system disk," "non-system disk," "program disk" and "data disk." A system disk

is one that contains the operating system programs; `COMMAND.COM` plus two "invisible" files. These are the MS-DOS files that make up the operating system and give it its unique characteristics.

When the computer is first turned on, these files are loaded into memory and activate the screen with the sign-on message. The `COMMAND.COM` file, alone, will not allow the system to "boot" (start up), since the two invisible files are required to complete the process. Later in this article, I'll tell you how to identify a system disk with the `CHKDSK` command.

To boot your computer, press the front power switch and put a system disk in the right-hand (A) drive. The drive light will come on as MS-DOS is loaded into memory. An A prompt on the screen is your indication that you are in MS-DOS. The A prompt in MS-DOS 1.25 has a colon (:) after it. When using MS-DOS 2.11, a greater-than symbol (>) follows the A.

Once the sign-on message and A> is seen on the screen, MS-DOS is resident in memory. At this point, a disk without the three MS-DOS programs (called a "non-system," "program" or "data" disk — all really the same thing under different names) can be put in Drive A and used to load the desired program or data into memory.

Current Drive

If you have an MBC-550, you only have one disk drive, which is always the "active," "current" or "default" drive. (An exception to this would be if you have a section of memory set aside to act as a RAM disk. If you do, you'll have separate instructions.)

If you have an MBC-555, you have two drives (A and B), and you must always specify the new drive when you want to change. Use the drive letter followed by a colon (:), such as B:. MS-DOS will not look for anything by scanning each drive automatically. Your command must specify the drive required. Some examples that follow will illustrate this.

Disk Drive Lights

Don't be fooled by the red light located at the upper-left corner of each drive. Unlike most other computers, where the drive lights only go on when the drive is actually in use, on the Sanyo one drive light is always on to let you know the last drive used. However, this is not necessarily the default drive!

Internal Commands

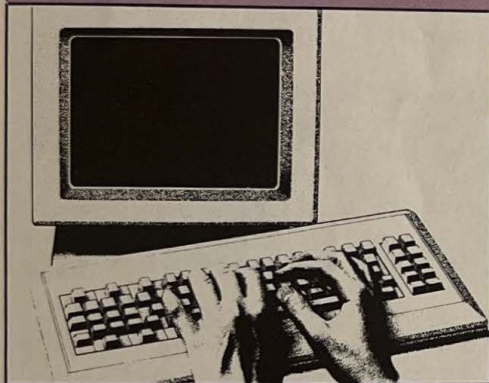
Within the `COMMAND.COM` file are several "internal" MS-DOS commands. These commands are in memory after you boot your machine, and will

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respond directly from the keyboard without having to read another MS-DOS disk file. In other words, you do not need a system disk in the current drive when you use these commands. The internal commands are: DIR, TYPE, COPY, REN, ERASE, DEL, DATE, TIME, REM and PAUSE.

You should always leave a space after a command in MS-DOS. Actually, other forms of punctuation can be used, but a space is simple and safe. Also, MS-DOS usually doesn't care whether you use upper- or lowercase letters for commands and filenames; it usually changes them all to uppercase automatically. However, there are always exceptions, so if you are using lowercase and something isn't working properly, switch to uppercase.

When using filenames, always include the "extension" (the three characters following the filename, if any, such as .COM or .BAS). Use a period in front of the extension to separate it from the filename, such as BASIC.EXE.

DIRectory

One of the first things you should do with your MS-DOS disk after booting is to get a directory of it. You do this with the DIR command. For the directory of Drive B, the command is DIR B:. Be aware that a single-sided drive will give you "garbage" when you try to read the directory of a disk that has been formatted and used as double-sided.

Now, don't get confused here. You can't tell from looking at a disk whether it has been formatted on one or both sides. The access slots are there for recording on both sides, but just because a disk has a label that says "SSDD" (single-sided, double-density) or simply "single-sided," doesn't mean it can't be used on both sides. Most can, and many are.

When you look at the directory of your DOS disk, you'll see that in the first column is the filename, and in the second column is the three-character extension that identifies the type of program. Although not shown in the directory, a filename extension is always preceded by a period (e.g., .COM means COMmand and can be requested directly when in DOS). A program with an .EXE extension is also a command program, available from DOS, but formatted in a manner of interest only to advanced programmers. A .BAS means the file is a BASIC program, and you must first go into BASIC to load the program. Other extensions will be mentioned later.

The next column in the directory listing is the number of "bytes" (characters or memory locations) used by this file.

The next columns show the date and time that the programs were originally written to the disk. Disk copies will faithfully reproduce these dates and times, even if they are actually copied years later.

Printing the Directory

Whenever you are in DOS, press CONTROL-P to "echo" the screen output to the printer. If you do this, you must have the printer on and ready, or the computer keyboard will "lock up" (fail to respond) after two characters! CONTROL-N gets you out of the printer mode in MS-DOS 1.25. With MS-DOS 2.11, either CONTROL-P or CONTROL-N will disable the echo mode.

Therefore, if you want to print out the disk directory, press CONTROL-P before DIR, and then press ENTER.

There are several other options available with the DIR command. Specify a filename, such as DIR DEMO.BAS if you just want the information for that particular file. You can also use "wildcards" (* and ?) as described in the user's guide, pages 4-8 through 4-10. I usually avoid this method.

If you have a long directory, use DIR /P (or DIR B:/P) for page mode. The listing will stop when the screen is filled until you press a key to continue. If you prefer an abbreviated listing of the filenames and extensions only, use DIR /W (or DIR B:/W) for wide mode.

TYPE a File

The TYPE command lets you read, onscreen, any file saved in ASCII format. This means most text files generated with a word processor, a file generated with the EDLIN line text editor provided with MS-DOS, data files, or even a BASIC program saved in ASCII. Generally, these files have extensions of .ASC, .BAT, .DAT, .TXT or .DOC. Once again, you can print these out by using CONTROL-P before issuing the TYPE command.

CONTROL-S acts as a "toggle" to stop the screen display. Repeat this combination to start again. Pressing BREAK, or CONTROL-C, will abort the TYPE command with MS-DOS 2.11. Unfortunately, MS-DOS 1.25 does not support either CONTROL-S or BREAK with the TYPE command, but CONTROL-C does work.

COPY a File

If you only have a single drive, this command allows you to copy a file onto the same disk with a different filename. With one drive you cannot copy a file from one disk to another, a far more useful function. On many computers with one drive, you do this with a copy command that has you swapping disks, but not with the Sanyo's versions of MS-DOS.

However, all is not lost. Sanyo has made several of their utility files available to dealers and users groups. One of these files is SCOPY, which is a single-drive copy program. The command is:

```
SCOPY source filename.ext target  
filename.ext
```


The source disk file is read into memory, then the source disk is swapped in the drive with the target disk, and the file is written from memory onto the target disk. Appropriate messages on the screen tell you when to switch disks.

With two drives, the COPY command is easy. Just use this command to copy a file from Drive A to Drive B:

```
COPY A:filename.ext B:
```

If A is the default drive, the A: is not required, but it doesn't hurt to type it in anyway. The filename with extension should be the same as that listed in the directory, with a period between the filename and the extension (if there is an extension in the directory for that filename). If you want the copy to have another filename and/or extension, add that directly after the B: in the command. Of course, by interchanging the A: and B: in the command, you can copy from B to A.

RENameing a File

Is there a filename in your directory that you dislike? Change it with REN (or RENAME), using this syntax:

```
REN present filename.ext desired  
filename.ext
```

You probably won't use this a lot, but it can be very convenient at times. As your program library gets more and more full, you'll occasionally want to reorganize your files and coordinate the titles or change the extensions, to create a logical sequence.

ERASE or DELeTe

When you want to clear disk space, use ERASE or DEL to remove files. Actually, the files are still on the disk (they haven't actually been erased), but the DOS will ignore them and assign that "free" space to the next program written to the disk. The command is ERASE filename.ext or ERASE B:filename.ext if you wish to erase a file on the B drive and A is the current drive.

DATE and TIME

When you first come up in MS-DOS, you are asked for a date and time. You can bypass both of these by simply pressing ENTER. However, you might later decide that you want the date and time in memory to "timestamp" a new disk file you are about to save. In BASIC, you use DATE\$ and TIME\$. In MS-DOS, the commands are DATE and TIME. The screen will show you the current date or time in memory, and prompt you for the input. For DATE, use a slash (/) or hyphen (-) between the month, day and year. For TIME, use a colon (:) between hours and minutes.

Seconds are not necessary.

The TIME function on the Sanyo 550 series is interrupted whenever the disk drives are in operation, and TIME seems to run fast (about seven minutes per hour). If you want to check this, enter the time when you boot up in response to the MS-DOS prompt. Anytime later, type TIME and press ENTER while in DOS. In BASIC, type PRINT TIME\$ and press ENTER. The TIME and DATE commands in DOS also allow you to specify the time or date.

External Commands

Several .COM files are listed in the directory of the Sanyo MS-DOS disk. Some are very specialized. The ones most commonly used are: COMMAND, FORMAT, DISKCOPY, CHKDSK and EDLIN.

These .COM files are called into memory when their command is issued from the keyboard. It is assumed that COMMAND .COM, which is loaded into memory on MS-DOS boot-up, is resident and that the A or B prompt is the last displayed item.

FORMATting a Disk

When you buy a "blank" disk, it is nothing more than a magnetically coated thin plastic disk in a stiff jacket with the proper access holes, with no particular magnetic pattern on the disk surface. The computer needs to have a magnetic pattern of "tracks" and "sectors" applied.

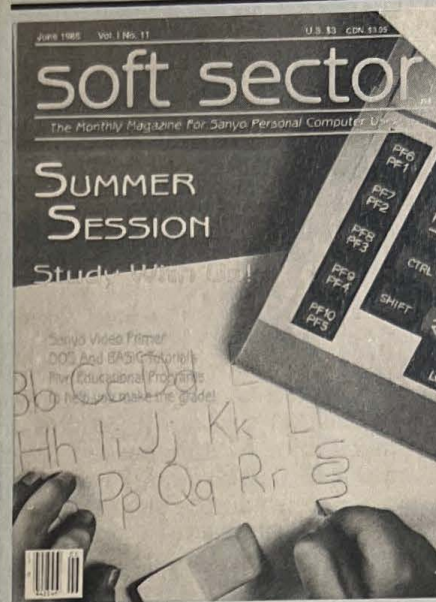
MS-DOS 1.25, has 40 tracks, with eight sectors of 512 bytes per sector, for a total of 163,840 bytes (generally referred to as 160K). With MS-DOS 2.11, you have the additional options of nine sectors per track and double-sided, so you can have 160K, 180K, 320K or 360K formats. This is all done with the FORMAT command.

First, be sure the disk in the active drive has the FORMAT.COM file on it. Type FORMAT (or FORMAT B: if you have two drives) and press ENTER. You'll get on-screen instructions telling you what to do next.

Be sure that the square notch near the upper-right corner of the blank disk is not covered. This is the "write-protect notch," and must be uncovered or the computer cannot write to the disk. If this notch is covered, the screen will display an error message, or the computer will just stop, depending on your version of DOS. To recover, you'll have to remove the blank disk, replace it with a system disk, and you may have to press the Reset button at the upper-left side of the keyboard.

Assuming you have an uncovered notch, the computer drive will start and the clicking noises (plus the screen message) tell you the disk is being formatted. Note, however, that the computer will not warn you if this disk actually has pro-

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grams or data on it. If so, they are gone forever once the formatting starts. Some versions of DOS provide a warning and let you abort if you mistakenly try to reformat. MS-DOS gives no such warning. Therefore, use the FORMAT command with caution.

Using FORMAT /S (or FORMAT B: /S) will format the disk (nine sectors per track, double-sided is the MS-DOS 2.11 default) and transfer COMMAND.COM and two necessary invisible system files, making this a system disk. Unless formatted this way, or with DISKCOPY, you can't get the invisible files on the disk. The SYS command, used to transfer the invisible files with some other versions of MS-DOS, does not work properly with Sanyo MS-DOS.

Other "switches," in the same manner as /S, may be used: /1 formats single-sided, /8 formats eight sectors per track instead of nine, /V allows you to specify a disk (volume) name of up to 11 characters. These switch codes may be used in any combination and in any order. For example, FORMAT B: /S /1 /8 will format a disk in Drive B as a system disk, single-sided, with eight sectors per track.

DISKCOPY

DISKCOPY is another command that can get you into a lot of trouble, yet can

be a great timesaver. Instead of transferring files one-by-one with the COPY or SCOPY command, DISKCOPY makes an exact magnetic image of the "source disk" on the "target disk," even if you have only one drive.

The danger is that the target disk is completely changed, and if it has any data or programs on it, they are lost without warning. Also, if the target disk has any bad sectors (physically damaged so they don't accept a signal properly) the DISK COPY command ignores them instead of "locking out" any bad sector as the COPY command does.

The advantages of DISKCOPY are speed and simplicity. With a disk containing DISKCOPY.COM in the default drive, type DISKCOPY (or DISKCOPY A: B:) and press ENTER. After that, the procedure is slightly different, depending on whether you have a single or dual-drive system; just follow the prompts. On a single-drive system you'll have to swap disks. Once again, the target disk must not have the notch covered.

CHKDSK

It's a good idea to have CHKDSK.COM resident on every disk you use if you just have a single drive. It occupies only 1,720 bytes of disk space, and you can't use it on a single-drive system unless it's on the

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disk you want to check. Type CHKDSK and press ENTER, and you'll get a screen display. To check the disk in Drive B of a two-drive system, type CHKDSK B: and press ENTER.

Notice that if you are using a system disk, two hidden files are shown. Except for trying it when you boot or press Reset, this is the easiest way to determine whether you can use the disk to boot up. Of course, COMMAND.COM must be listed in the directory or it will not be a complete system disk.

The line of the CHKDSK report that is most important if you're using MS-DOS 1.25 is "XXXX bytes available on disk." This is something you should check regularly as your disk starts to get full. MS-DOS 2.11 gives you a report of remaining space with every directory, but Sanyo MS-DOS 1.25 does not.

EDLIN

MS-DOS contains its own line editor that can create a file in ASCII. There are various subcommands associated with this utility. You can insert, delete, append, edit and list lines, and then save the entire text as a disk file that can be read or printed with the TYPE command. It's really a simple text editor program.

EDLIN is handy for generating documentation to support a program on the

same disk, commonly identified with the program filename with an extension of .DOC. It is also frequently used to generate "batch files" that automatically execute programs from boot-up. Although batch files can be very handy, they are a specialized application of MS-DOS not covered here.

Using EDLIN is not difficult, and an introduction is provided in the Sanyo user's guide. Some books on MS-DOS go into the use of EDLIN (and batch files) in detail, and Sanyo's version of MS-DOS appears to support standard EDLIN commands.

BASIC From MS-DOS

The only way to get into BASIC is through MS-DOS, using the BASIC .EXE file. Just type BASIC; you don't need the .EXE extension since MS-DOS automatically recognizes the .COM, .EXE or .BAT extensions. When you see the BASIC logon message and the Ready prompt onscreen, you're safely out of MS-DOS.

If you want to save some time and you know which BASIC program you want to use, type BASIC~filename~ and press ENTER. The program will run at this point. You need not add the extension if it is

.BAS, and you don't even need the closing quotation mark.

To address a BASIC program in Drive B, add B: after the opening quote following the word BASIC, such as BASIC~B:filename~. The B must be uppercase! Incidentally, all BASIC disk I/O commands will address a non-default drive this way. For example, RUN~B:filename~ will access a BASIC file on Drive B, load and run it.

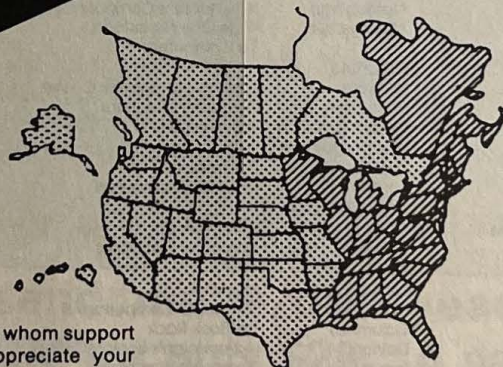
To get back to MS-DOS (which, regrettably, you must sometimes do for a CHKDSK or FORMAT or whatever), you simply type SYSTEM at the Ready prompt and press ENTER. Your screen will go blank and show an A> (or B> if you have two drives and B is active).

In some cases, if COMMAND.COM has been bumped out of memory by your BASIC program, you'll have to use a disk with COMMAND.COM on it to get back to MS-DOS. If so, a screen message will prompt you.

Summary

The bottom line here is that you shouldn't spend much time groping around MS-DOS. You'll have to learn to use a few of the commands like DIR, FORMAT, DISKCOPY, CHKDSK, ERASE and perhaps TYPE. If you are overcome with the desire to go beyond that, get a few books on MS-DOS.

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Chicago
Downers Grove
Rockford
Salem

H & S Computer Supplies
Canyon Computers & Communications

Software Or Systems
Hyde Park Computers
Computer Grove
Learn-A-Bit Computers
Salem Computer Systems

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Wichita

Wichita Computer & Supply

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Louisville
Owensboro
Prospect

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Computer Stall
Falsoft, Inc.

LOUISIANA

Gretna

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Millersville
Silver Springs
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The Software Store
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Micro Computer Co.

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Berkley
Fenton
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Cowley Distributing
Softwaire Centre

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Omaha

Computers & Components

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Lake Hopatcong
Ocean City

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Jefferson Computer Center
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